

**DETERMINANTS OF EXECUTIVE
REMUNERATION:
AUSTRALIAN EVIDENCE**

A thesis submitted in fulfilment of the requirements for
the degree of Doctor of Philosophy

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CERTIFICATION

I certify that except where due acknowledgement has been made, this work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of this thesis is the result of work which has been carried out since the official commencement date of the approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

Michaela Rankin
December 2006

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For Cassandra

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**DETERMINANTS OF EXECUTIVE REMUNERATION:
AUSTRALIAN EVIDENCE**

Abstract

Corporate governance, and the role of executive pay in particular, has received increased attention from the media, government, and the business arena in recent years. The study reported in this thesis adds to our understanding of both the components and determinants of Australian remuneration packages for the top management team. It does so in four main ways:

1. The study examines the determinants of compensation of a range of senior executives within the organisation, in addition to the CEO. No Australian research, to date, explores the structure and determinants of remuneration beyond the CEO;
2. The research is conducted in a contemporary setting and timeframe, where corporations are subject to expanded disclosure requirements, when compared to the subjects of prior Australian research;
3. It examines an expanded range of factors documented in overseas research as likely to relate to remuneration, some of which have not been previously examined in Australian work;
4. Finally, in developing hypotheses concerning factors expected to relate to remuneration, the study reconciles the perspectives provided by both agency and managerial power theories in terms of how they present similar and differing propositions.

The research examines both cash and incentive components of executive compensation disclosed by a sample of top 300 Australian companies in 2005. The model incorporates measures of firm performance, economic

characteristics, board monitoring and governance characteristics, and ownership characteristics in an attempt to explain the level of executive compensation. The study extends analysis beyond the CEO to incorporate an investigation of both the structure and determinants of compensation of the top five executives, in addition to the CEO.

Results indicate that the structure of CEO compensation has changed since prior Australian research was conducted, to include a more heavy reliance on incentive pay. In contrast to the US, the structure of CEO remuneration differs from that of non-CEO executives. As managers move progressively up the senior executive hierarchy, short-term cash bonus and share-based incentive pay both become more important as components of remuneration. There is also a greater reliance on performance hurdles than has been documented in prior Australian and international research.

The expectation that remuneration is now more strongly tied to firm performance is supported. The size and complexity of the firm are also considered to be important in determining the level of various components of both CEO and non-CEO executive compensation. This supports the view that larger, more complex entities attract higher quality executives, and pay for such quality and expertise. Growth firms are more likely to pay higher levels of incentive pay and total compensation to CEOs than non-growth firms.

Executive remuneration also relates to the strength of various monitoring and governance mechanisms, although to a greater extent for CEOs than for other senior executives. Managers are able to influence the remuneration-setting process where governance structures are weak, or where they have greater influence. This is particularly evident, for example, where the CEO is the founder, or holds a greater proportion of shares; and when they have been incumbent in their position for an extended length of time.

In some cases factors relating to CEO compensation differ from those associated with compensation of lower-level executives.

Chapter 1

INTRODUCTION

Corporate governance has increased in prominence and importance in the business arena in recent years. With the collapse of Enron and, in Australia, other high profile companies including HIH, One.Tel and Harris Scarfe, there has been a call for improved corporate governance mechanisms (Kiel and Nicholson, 2003; Lavelle, 2002; Thomas, 2002; Department of Treasury, 1998).

Executive pay, as one major component of governance mechanisms, has received increased attention from media and government circles. Substantial changes to remuneration disclosure regulations appear to have paralleled attitudes of the market, investors and the media. In particular, the media and investors have questioned the link between executive compensation and firm performance, and the levels of executive compensation. For example, John Collett reports in the *Sydney Morning Herald* that a study of remuneration packages of chief executives from 64 of the top 100 listed companies,

commissioned by the Australian Council of Super Investors (ACSI), found the bonus portion of CEO remuneration packages had no correlation with company performance (Collett, 2006). In a media release commenting on the results, Executive Officer of the ACSI, Phillip Spathis, noted that ACSI's findings over several years indicated increases in CEO pay tended to be driven by factors outside improved shareholder returns. He said, "CEOs deserve high pay for outstanding performance, however, increases should be driven by genuinely performance-related components" (Australian Council of Super Investors, 2006).

The Australian government, as part of its corporate law reform process, passed the *Company Law Review Act 1998*, which required significantly expanded disclosures of information about remuneration of directors and executive officers. Recognising the need to promote "meaningful disclosure rather than just more disclosure", the Minister for Financial Services and Regulation, in a speech to the Australian Institute of Company Directors, noted one of the main objectives of the new legislation as being the ability to "strike a balance between the need for directors to get on with running the company, and the desirability of allowing shareholders the chance to look after their interests" (Hockey, 1999).

Following developments in overseas jurisdictions, including the US Sarbanes-Oxley Act of 2002 and taking into consideration recommendations of the HIH Royal Commission and the Ramsay Report on the Independence

of Australian Company Auditors (Department of Treasury, 2002; 2004), *CLERP 9* requirements were passed into legislation as the *CLERP (Audit Reform and Corporate Disclosure) Act 2004*, effective from 1 July 2004. The legislation required further, substantial changes to recognition and disclosure of executive remuneration information, and associated governance mechanisms.

The current study seeks to document both the current structure and determinants of executive remuneration in Australia, and how, subsequent to recent legislative changes, they may have changed from those observed in prior Australian research. The next section discusses the objectives and contribution of the study in more detail.

1.1 Objectives and Contribution of the Study

Compensation policy is one of the most important factors in organisational success (Jensen and Murphy, 1990a). Not only does it influence how top executives behave, but it also impacts what kind of executives an organisation attracts (Jensen and Murphy, 1990a). The objective of the study documented in this thesis is to add to our understanding of both the components and determinants of Australian remuneration packages for the top management team responsible for the strategic direction of the firm, under an expanded regulatory regime. It does so in four main ways.

1.1.1 Remuneration Practices of the Senior Executive Team

The study examines the components and determinants of remuneration of the top management team, in addition to the CEO. This is an area of research not previously conducted in Australia. The emphasis of prior research that examines the structure and determinants of compensation, both within Australia and internationally, has been on CEO compensation only. The limited research that has extended the analysis to other managers has been constrained to the US environment (e.g., Ryan and Wiggins, 2000). Finkelstein (1992) notes, however, that it is the 'dominant coalition' of senior managers within a firm that is responsible for setting the policy and strategic direction of the organisation, not merely the CEO. In fact while the CEO is generally considered the most powerful member of the group, this is not always the case – managers with large shareholdings may be more influential than the CEO (Finkelstein, 1992). Changes to reporting requirements outlined in both accounting standards and corporations' legislation which require detailed disclosure of remuneration packages of the top management team, also point to the importance of senior managers, other than the CEO, in the strategic direction of the organisation. Consequently, the current study examines the determinants of compensation for the top management team within the organisation, not just the CEO.

1.1.2 Contemporary Regulatory Setting

The current research is carried out in a contemporary setting and timeframe which is subject to expanded disclosure requirements, compared to prior

Australian research. The corporate reporting landscape relating to executive remuneration has experienced substantial change over the last 10 years. The Australian Government instigated a corporate law reform process when the *Corporate Law Economic Reform Program (CLERP)* was announced by the Treasurer in 1997 (Department of Treasury, 1998). The resulting *Company Law Review Act 1998 (CLRA98)* required substantial changes to remuneration disclosure. The then existing requirement to merely detail the number of executives with remuneration within each \$10,000 band above \$100,000 was replaced by an obligation to outline the nature and amount of each element of pay (including cash, shares and options) for each of the five highest paid directors and officers of the company. In addition, the broad policy for determining the nature and amounts of compensation, and the relationship between the remuneration policy and company performance was also expected to be documented.

Despite the requirement to disclose the relationship between remuneration policy and company performance, there were major concerns that companies were not adequately demonstrating this link (Parliamentary Joint Committee on Corporations and Financial Services, 2004). Recognising these inadequacies, and others, the Australian Government released *CLERP 9*, which proposed additional significant changes to corporate governance. The *CLERP (Audit Reform and Corporate Disclosure) Act 2004*, effective from 1 July 2004, contained wide ranging measures to improve corporate disclosure and audit independence, amongst other corporate governance guidelines. In

particular, *CLERP 9* required the adoption of accounting standards issued by the International Accounting Standards Board (IASB) from 1 January 2005, expanded disclosure of director and executive remuneration, including performance hurdles, and the proportion of remuneration linked to performance targets, the presentation of a Remuneration Report within the directors report and the requirement to hold a non-binding shareholder vote to adopt the remuneration disclosures within the Remuneration Report.

As a result, it is expected that boards of Australian companies are more likely to be vigilant in ensuring there is a tighter link between executive pay and firm performance. Shareholders are more closely scrutinising the performance hurdles in place, and how the board is assessing performance against these hurdles (Buffini, 2006a). The ability of shareholders to vote on the contents of the Remuneration Report means shareholders are now taking the opportunity to voice their displeasure with remuneration contracts they see do not demonstrate an adequate pay-performance link (Buffini, 2006a). Against this backdrop, it is likely that the current study will find a stronger link between executive pay and firm performance than that observed in prior Australian research (e.g., Fleming and Stellios, 2002; Coulton and Taylor, 2002b; Chalmers, Koh and Stapledon, 2006).

Resulting from convergence with international accounting standards, Australian corporations, from January 2005, were required to follow the guidelines outlined in *AASB2 Share-based Payment* (based on the

equivalent international standard) in relation to valuing and recognising stock options and other share payments to employees. This represented the first time Australian companies had received such guidance. It also coincides with similar changes to legislation in both the US and the UK, where comparable accounting standards now exist. This has two implications for the current study.

Firstly, this provides the opportunity to utilise a more accurate valuation of share-based remuneration components. Prior academic research uses the option pricing model provided by Black and Scholes (1973). However, the accuracy of share-payment measures using such a model for academic research purposes can be questioned (McKnight and Tomkins, 1999). One practical problem when using the Black-Scholes model in academic research is the number of parameters that must be estimated by the researchers, with research results being sensitive to the assumptions made by the researcher about the components of the valuation model (McKnight and Tomkins, 1999; Murphy, 1999). Valuations provided in company reports, pursuant to *AASB2* are likely to provide a more accurate measure of option values than those calculated by researchers using the Black-Scholes model. Company-generated values consider firm-specific parameters relating to the likelihood of early exercise, the appropriate risk rate, and other firm-specific factors not available to academics.

Secondly, all prior research, both within Australia and internationally, has been undertaken under regulatory regimes where share options are not required to be included in remuneration expenses in the income statement, and consequently has no impact on profit calculation. With the advent of AASB2, which applies to the reporting period examined in the current study, Australian reporting entities are required to expense stock options over the expected vesting period (Para. 15). It is likely that this new requirement will influence the selection of remuneration components used by Australian reporting entities to reward managers. Similar reporting requirements are being introduced internationally.¹ As such, results of the current study will be generalisable beyond the Australian reporting environment.

Research in Australia examining components of managerial pay (and equity based compensation in particular), and determinants of compensation has been sparse, primarily because of limited data availability. Any Australian research that documents components and/or determinants of remuneration was carried out either prior to the enactment of *CLRA98* (e.g., Defina, Harris and Ramsay, 1994; Izan, Sidhu and Taylor, 1998; Merhebi *et al.*, 2006) or in the intervening period prior to when *CLERP 9* took effect (e.g., Fleming and Stellios, 2002; Coulton and Taylor, 2002b; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright 2006a; 2006b; 2006c). Given the substantial

¹ Following the issue of the International Accounting Standards Board (IASB) *IFRS2 Share-Based Payment*, The Financial Accounting Standards Board (FASB) in the US issued a revised statement: *FAS123 Share-Based Payment* in December 2004 to replace the original *Stock-Based Payment*. Similarly, the Accounting Standards Board (ASB) in the UK issued *FRS20 Share-Based Payment* in April 2004. Both standards are consistent with the Australian equivalent.

changes to executive compensation disclosure requirements, outlined previously, it is opportune to reassess the components used in typical Australian corporate remuneration contracts. It is likely that companies have re-assessed their use of the range of pay alternatives available, in particular share-based incentives, since prior Australian research was conducted. This study examines the components contained in Australian executive pay contracts and compares these to other recent research (e.g., Coulton and Taylor, 2002b; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright, 2002a) to assess if there are any systematic modifications to executive pay arrangements resulting from the recent changes to the regulatory setting faced by Australian corporations.

1.1.3 Factors Not Previously Examined in Australian Research

Factors found in prior literature to relate to the level and structure of executive pay could have changed as a result of amendments to the reporting regime. Given the increased importance placed on the disclosure of performance targets under recent amendments to corporations' legislation, in addition to the requirement for a non-binding shareholder vote on the remuneration report, it is expected this increased transparency will lead to a reassessment of compensation, and factors used by corporate entities to determine appropriate remuneration levels and components. This study assesses whether factors previously found to relate to remuneration still hold under the new reporting regime.

Similarly, a number of factors, including the proportion of external directors appointed to the board subsequent to the CEO taking office, have been found by overseas research to relate to the level of CEO compensation (see for example Conyon and Peck, 1998; Core, Holthausen and Larcker, 1999). These factors have not, to date, been examined by Australian research. The current study addresses this limitation.

Expanded reporting requirements also mean we are now able to determine additional potential explanatory factors, such as the extent of experience the CEO and other senior managers gain from sitting on other company boards. Although investigated in overseas research as a likely determinant of the level of executive compensation (e.g., Laing and Weir, 1999), it has not been examined in Australian research previously, as the information was not generally available. Changes to company legislation mean this construct can now be identified and measured.

1.1.4 Theoretical Framework

Empirical investigation within Australia and internationally has, to date, engaged agency theory as the predominant perspective in the development of testable hypotheses (e.g., Jensen and Murphy, 1990b; Iza, Sidhu and Taylor, 1998; Core, Holthausen and Larcker, 1999; Coulton and Taylor, 2002b; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright, 2006b; 2006c). Research using agency theory to develop testable hypotheses often includes a range of 'control' variables based on evidence from prior research

without necessarily providing any theoretical justification for their inclusion (e.g., Mehran, 1995; Conyon and Peck, 1998; Anderson and Bizjak, 2003). Recently, the theory of managerial power, which emerges from the sociology and political science literatures, has been proposed as a theory which can assist in more fully considering behavioural aspects of managerial actions, in order to present a more comprehensive model of the determinants of executive compensation (Bebchuk, Fried and Walker, 2002; Grabke-Rundell and Gomez-Mejia, 2002).

This study's fourth and final contribution is to reconcile the perspectives provided by both agency and managerial power theories in terms of how they present similar and differing propositions regarding determinants of executive remuneration. Both theories are utilised in the development of testable hypotheses relating to factors expected to influence executive pay.

1.2 Motivation for the Study

This study is primarily motivated by the recent importance attached to corporate governance and regulation of executive compensation by government bodies, other regulatory agencies, media commentators and other stakeholders. No other Australian research has, to date, been carried out in a setting where companies are subject to the full extent of recent regulatory changes. Results of this study will provide additional information upon which to assess the success or otherwise of current disclosure

regulation and the potential need for any amendments. In particular, results indicating any changes in the use of stock options and other equity instruments as part of remuneration is useful in the international context, given it is the first study undertaken within a new regime where options are required to be expensed. Identifying and measuring additional factors expected to impact on remuneration policy, as a result of expanded disclosure requirements, will serve to improve our understanding of factors affecting remuneration policy in Australian firms.

The research also contributes to the existing literature by reconciling different theoretical perspectives to improve our appreciation of the factors likely to influence executive pay. This study introduces the emerging theory of managerial power to expand on our understanding of factors influencing executive remuneration.

The work also contributes to our knowledge of components of, and determinants of, compensation arrangements for senior executives other than the CEO. This is an area previously not assessed in Australia. Recent changes to legislation expand remuneration disclosure requirements to compel companies to document the remuneration of executives responsible for the strategic decision-making activities of the group in addition to the parent entity. This implies the importance placed on the executive team as a whole, not just the CEO.

1.3 *Brief Outline of the Study*

The legislative constraints governing the disclosure of information relating to executive remuneration are outlined in Chapter 2. It commences with a review of changes to corporations' legislation resulting from the Federal Government's *CLERP* initiatives. Amendments to accounting standards resulting from convergence with international financial reporting standards are also documented.

A review of the current body of evidence pertaining to the components of, and determinants of executive pay follows in Chapter 3. Studies which document the level and structure of executive compensation, both within Australia and overseas, are examined. Factors which prior literature has found to be associated with executive pay are also outlined.

In light of the prior evidence, the factors identified from prior research that are expected to relate to executive pay, and to be tested in the current study, are examined in Chapter 4. Additional factors not previously investigated in the Australian context due to data or theoretical limitations are also introduced. In researching these factors, expectations of the relationship between the identified factors and remuneration design, from both agency and managerial power perspectives, are reconciled in order to develop testable hypotheses.

Details of the research design utilised in this study are then presented in Chapter 5. Sample selection procedures, variable measurement, and statistical tests are discussed.

Descriptive evidence of executive compensation methods for CEOs and other senior managers is documented in Chapter 6. Contemporary remuneration practices are compared to existing Australian, UK and US evidence. Results of empirical tests undertaken to assess factors hypothesised to relate to contemporary remuneration practices, are then presented.

Finally, a summary of the study, together with implications for future research are presented in Chapter 7. How the work can inform future development of public policy and debate on the success or otherwise in aligning executive pay with firm performance characteristics is also discussed.

Chapter 2

REGULATION OF EXECUTIVE COMPENSATION DISCLOSURE

The regulations governing executive compensation disclosures within the annual reports of Australian companies are outlined in this chapter. A history of the development of executive disclosure requirements in corporations' legislation, and changes resulting from the Federal Government's *Corporate Law Economic Reform Program (CLERP)* is initially presented. Accounting standard requirements for disclosure and recognition of executive remuneration information in financial reports, and how these have changed in recent years as a result of convergence with international financial reporting standards are documented in Section 2.2.

The influence of the Australian Stock Exchange (ASX) Corporate Governance Council through its *Principles of Good Corporate Governance and Best Practice Recommendations* is then summarised. In concluding, the importance of the changing nature of the legislative landscape to the setting of the current study is highlighted.

2.1 Corporate Legislative Requirements

Prior to 1998, the only disclosure of executive remuneration by Australian companies was a count of the number of executives receiving compensation within each \$10,000 band above \$100,000. These requirements were introduced into Schedule 5 of the Corporations Regulations in 1986, and were consistent with requirements in *AASB1017 Related Party Disclosures* and *AASB1034 Financial Report Presentation and Disclosures*.

The Australian Government instigated a corporate law reform process when its Corporate Law Economic Reform Program (CLERP) initiative was announced by the Treasurer in 1997 (Department of Treasury, 1998). The objective of the Government's CLERP is to review and reform corporate and business regulation to ensure that "Australia's corporate laws meet the challenges of the present and future market place in a forward thinking, responsible and innovative way" (Department of Treasury, 2002, p.iv). As part of its reform program the Federal Government introduced to Parliament the *Company Law Review Bill 1997*, which after consultation and debate, was passed as the *Company Law Review Act 1998 (CLRA98)*.

At the time the Bill was being debated, considerable public attention was devoted to senior executive salary packages, which, it was believed, were inconsistent with the value of shares and the performance of some companies (Parliamentary Joint Committee on Corporations and Financial Services, 2004). During debate in the Senate, section 300A was inserted into

the *Corporations Act* by amendment to Schedule 1 of the *Company Law Review Bill 1997*. This section required significantly increased disclosures of information about remuneration of directors and executive officers in the annual report of listed companies from 1 July 1998. Specifically, section 300A of the *Corporations Act 2001* required a discussion of the company's broad policy for determining the nature and amount of 'emoluments' of board members and senior executives, of the relationship between remuneration policy and the company's performance, and details and amounts of each element of the 'emolument' of each director and each of five officers receiving the highest 'emolument'.

In addition, section 300(1)(d), which applied to all reporting entities under Chapter 2M of the *Corporations Act 2001*, required disclosure of options granted to directors and executive officers as part of their remuneration.

Section 300A came under a great deal of criticism after its late inclusion in *CLRA98*. Ernst and Young noted that the requirements for executives and directors' remuneration were not subject to a reasonable period of public exposure and discussion, and found many ambiguities and inconsistencies, particularly in the use of its terms, for example 'officers' and 'emoluments' (Parliamentary Joint Committee on Corporations and Financial Services, 2004). These views were supported by other submissions to the Parliamentary Joint Statutory Committee on Corporations and Securities report on *CLRA98*. The major criticisms were, as identified by Ernst and

Young, definitional issues, and an inadequate link between remuneration policy and company performance (Parliamentary Joint Statutory Committee on Corporations and Securities, 1999).

In response to concerns relating to section 300A, the Australian Securities and Investments Commission (ASIC) issued *Practice Note 68: New Financial Reporting and Procedural Requirements (PN 68)* in order to clarify some of the accounting-related requirements of the legislation. In doing so, ASIC indicated that the new company law provisions were to be interpreted in accordance with the overall objectives of the legislation and that too much focus should not be given to words such as ‘emoluments’ and ‘officers’.

Paragraph 60 of *PN 68* outlined the elements of emoluments to be disclosed:

“Salary and fees, non-cash benefits, bonuses (possibly separate categories of bonuses where the bonuses are based on different performance criteria), profit share, superannuation contributions, other payments in connection with retirement from office, the value of shares issued, and the value of options granted.”

At that time, ASIC did not prescribe accounting valuation methods in relation to shares or options issued. In June 2004, however, ASIC sought to clarify the matter by releasing guidelines to valuing options in directors’ reports, in addition to other disclosure issues. The guidelines relied heavily upon

accounting requirements of *AASB1046 Director and Executive Disclosures by Disclosing Entities* and on Exposure Draft *ED2 Share-Based Payment*.² In their guidelines, ASIC made the point that companies were not relieved of their statutory obligation to comply with disclosure requirements outlined in the legislation merely because they regarded the calculation or disclosure as being too difficult or onerous (ASIC, 2005).

The most recent changes to corporations' legislation governing executive remuneration were contained within *CLERP 9*, which commenced with the development of a policy paper *Corporate Disclosure: Strengthening the Financial Reporting Framework* in June 2002 (Department of Treasury, 2002). The draft *CLERP (Audit Reform and Corporate Disclosure) Bill*, which gave legislative form to the policy proposals, was presented for feedback in October 2003. The Bill recognised the inadequacies in existing remuneration legislation, and proposed significant changes to disclosure of director and executive remuneration. The Bill also proposed significant changes relating to continuous disclosure provisions, audit oversight, and audit independence, amongst other corporate governance mechanisms aimed at improving transparency and accountability.

² *ED2* has since been replaced by *AASB2 Share-Based Payment*. Section 2.2 further outlines accounting standard disclosure requirements.

The amendments in *CLERP 9* relating to executive remuneration sought to enhance the existing regulatory framework by:

- extending the application of the disclosure requirements beyond the listed company to include the corporate group;
- enhancing the specific disclosures made;
- giving shareholders greater ability to hold directors accountable for their decisions regarding remuneration; and
- providing shareholders with a greater say in relation to the amount of termination payments (Department of Treasury, 2002).

In addition, the Bill proposed adoption of standards issued by the International Accounting Standards Board for reporting entities, for accounting periods beginning on or after 1 January 2005. Information which provides shareholders with an opportunity to assess both executive and non-executives' other commitments, other directorships held currently, and over the past two reporting periods, are also to be presented.

The Bill was passed into legislation as the *CLERP (Audit Reform and Corporate Disclosure) Act 2004*, effective from 1 July 2004 and was influenced in its development by numerous submissions, reviews and global developments in corporate governance. These included the Ramsay Report on the Independence of Australian Company Auditors and recommendations of the HIH Royal Commission (Department of Treasury, 2004) and developments in overseas jurisdictions including the US *Sarbanes-Oxley Act*

of 2002 (Department of Treasury, 2002). The report of the Parliamentary Joint Committee on Corporations and Financial Service (PJCCFS) inquiry into *CLERP 9* was also considered (Department of Treasury, 2004).

The *CLERP 9* requirements have resulted in significant amendments to Chapter 2M of the *Corporations Act 2001*, with obligations relating to director and executive remuneration being outlined in s300A(1). It now requires extensive disclosure of remuneration information in a section of the directors' report identified as the 'Remuneration Report' (s300A(1A)). This includes:

- discussion of the board policy for determining the nature and amount of remuneration of directors and executives of the company, in addition to other group executives of a consolidated entity (s300A(1)(a));
- discussion of the relationship between remuneration policy and the company's performance (s300A(1)(b));
- if an element of the remuneration of a director or executive is dependent on the satisfaction of a performance condition, a detailed summary of the performance condition, an explanation of why the performance condition was chosen, and a summary of the methods used in assessing whether the performance condition is satisfied (s300A(1)(ba));
- specific details relating to the remuneration of each director and each of the five named company executives who receive the highest

remuneration, in addition to each of the five named group executives of a consolidated entity who receive the highest remuneration (s300A(1)(c));

- If a portion of remuneration consists of securities, and that payment is not dependent on the satisfaction of a performance condition, an explanation of why it is not dependent on the satisfaction of a performance condition (s300A(1)(d)); and
- for each of the specified directors and executives:
 - (i) the relative proportions of remuneration that are related to performance and those elements that are not;
 - (ii) the value of options that are granted during the year as part of their remuneration;
 - (iii) the value of options that are exercised during the year;
 - (iv) the value of options that lapsed during the year;
 - (v) the percentage of the value of the director's or executive's remuneration that consists of options; and
 - (vi) if the executive is employed by the company under a contract – the duration of the contract, the periods of notice required to terminate the contract, and the termination payments provided for under the contract (s300A(1)(e)).

The new amendments addressed some of the acknowledged definitional problems of the existing legislation: 'emoluments' has been replaced by 'remuneration', 'officers of the company' has been changed to 'company

executives', and has been given a more specific meaning, giving emphasis to the decision-making responsibility of the officer (Parliamentary Joint Committee on Corporations and Financial Services, 2004). Submissions to the review of *CLERP 9* by PJCCFS generally agreed that there was a need for transparency and, for the most part, supported the intention of the draft *CLERP (Audit Reform and Corporate Disclosure) Bill* to strengthen the disclosure requirements of executive remuneration. In doing so, a number referred to recent high profile cases where inadequately designed remuneration schemes meant shareholders were poorly informed (Parliamentary Joint Committee on Corporations and Financial Services, 2004).

Some submissions to the inquiry were concerned that expanding the disclosure requirements to group executives would contribute to rising remuneration for executives, rather than containing increasing pay levels. Others, however, pointed to the existing market for executive pay information through remuneration consultants (Parliamentary Joint Committee on Corporations and Financial Services, 2004). Mr Shorten from the Australian Workers Union supported the increased disclosure. He believed that having more information will lead to "... a linking of performance to executive remuneration, which is appropriate. The Australian Workers Union are not against successful companies paying senior executives lots of money, but we do believe that ... there is very little upwards accountability of directors. We

think transparency will in fact add to accountability.” (Parliamentary Joint Committee on Corporations and Financial Services, 2004, p.44).

One of the major concerns was the ability of companies to adequately demonstrate a link between executive remuneration and performance. It was noted that this requirement is not new to the *Corporations Act 2001*, and studies have generally found a ‘negligible link’ between both fixed and variable compensation and firm performance. The report of the PJCCFS noted one study that found remuneration to be strongly correlated with the size and complexity of the company, but could not find any link to company performance in terms of return on equity and return on assets (Parliamentary Joint Committee on Corporations and Financial Services, 2004, p.48). Respondents to the inquiry generally welcomed measures in *CLERP 9* to improve the disclosure of the relationship between remuneration and performance hurdles. One such change is the opportunity for shareholders to vote on the contents of the Remuneration Report. This enables shareholders to have a greater say on how companies pay top executives, and is designed to overcome boards’ perceived failure to link pay to performance (Buffini, 2006a). Commentators note that shareholders have been taking the opportunity to voice their displeasure with remuneration contracts since the Bill came into effect (Buffini, 2006a).

One continuing concern amongst stakeholders is the duplication of remuneration disclosure requirements for listed companies, where similar

disclosures must be made in the Remuneration Report contained within the Directors' Report pursuant to *CLERP 9* amendments to the *Corporations Act 2001* and the financial reports as a result of relevant accounting standards (Australian Accounting Standards Board, 2003). *Corporations Act* Regulations 2M.3.03 and 2M.6.04 (the regulations) were amended by the Treasurer in 2005 to allow listed companies to avoid duplication of certain remuneration disclosures made in their annual financial reports. The regulations apply to reporting periods ending on or after 30 June 2005 to every listed company which is required to prepare a financial report in accordance with Chapter 2M of the *Corporations Act 2001* (KPMG, 2006). The regulations now allow certain disclosures required by accounting standards to be made in the Directors' Report if that information contained within the Directors' Report is audited.

The regulations do not address the differing requirements of accounting standards and section 300A in relation to the identification of individuals subject to disclosure (KPMG, 2006). Instead, the regulations require the Remuneration Report to include the relevant details for the executives covered by accounting standards in addition to those covered by section 300A of the *Corporations Act 2001* (KPMG, 2006). The regulations do not permit transfer of all accounting standard executive remuneration disclosures, many still need to be made in the annual financial report.

In summary, since 1998 there have been significant changes in legislation which guide corporations' disclosure of executive remuneration. Effective from 1 July 2004, these regulations have expanded further to include additional guidance on applying accounting standards to record and measure the value of options, performance hurdles against which remuneration is determined, and remuneration for an expanded group of executives. In addition, shareholders have an increased input to the remuneration process by way of a non-binding vote on the Remuneration Report presented to the annual general meeting. Each of these changes has influenced the regulatory environment that firms in the current study are subject to, when compared to sample firms in prior Australian studies. They are likely to lead to greater alignment between executive pay and firm performance and closer attention to the proportion of pay which is performance-based.

2.2 Australian Accounting Standards

Accounting requirements for executive remuneration disclosure were originally contained within *AASB1017 Related Party Transactions* and *AASB1034 Financial Reporting Presentation and Disclosures*. Consistent with the original legal requirements introduced in Schedule 5 of the Corporations Regulations in 1986, disclosure was required for executives receiving compensation within each \$10,000 band commencing at \$100,000. *AASB1046 Director and Executive Disclosures by Disclosing Entities* was introduced in January 2004 to improve the quality of disclosures relevant to

individuals governing listed entities. *AASB1046* was to be applied, for the first time, to all executive compensation disclosures in the annual report during the time period reflected in the current study. At the time the standard was issued, there was an expectation that the requirements would be reviewed when considering the adoption of *IAS24 Related Party Transactions* as part of the international convergence project.

AASB124 Related Party Disclosures was issued in July 2004, becoming effective for reporting periods beginning on or after 1 January 2005. Rather than amend and reissue *AASB1046*, the AASB preferred to include its requirements in *AASB124* as additional disclosure items. Consequently, *AASB124* was revised and reissued in December 2005, and is applicable to annual reporting periods ending on or after 31 December 2005.

Also as a result of the Financial Reporting Council's convergence directive, *AASB2 Share-Based Payment*, based on *IFRS2 Share-Based Payment*, was first gazetted in July 2004 and applies to financial years starting on or after 1 January 2005. The standard sets out measurement principles and specific requirements relating to share-based payment transactions.

The requirements of each of these accounting standards, and how they influence the setting for the current study are outlined below.

2.2.1 AASB 1046 Director and Executive Disclosures by Disclosing Entities

As noted previously, the aim of this standard was to improve the quality and comparability of disclosures by listed companies, about the remuneration of those responsible for its corporate governance. It was issued to incorporate features of overseas reporting, but adapted to accord with requirements of the *Corporations Act 2001* (AASB1046, p.5). The majority of requirements were initially proposed in Exposure Draft *ED106 Part 1 Director and Executive Disclosures by Disclosing Entities*, issued in May 2002. Disclosing entities applying AASB1046 were exempted from applying director disclosure requirements in the existing AASB1017 *Related Party Disclosures*.³ Requirements for banded disclosures of executive remuneration in AASB1034 *Financial Report Presentation and Disclosures* were also withdrawn. The standard was required to be applied throughout the sample period addressed in the current study.

AASB1046 applied to measurement and disclosure of remuneration of 'specified' directors and executives responsible for the governance of the entity, within the financial report. 'Specified' executives were defined as the "five or more executives (other than specified directors) with the greatest authority for the strategic direction and management of the entity" (AASB1046, Para. 4.1). They were not limited to the most highly paid executives. This contrasts with the requirements of section 300A of the

³ This requirement did not exempt disclosing entities from complying with all other requirements of AASB1017, however. As indicated previously, AASB1017 has been reissued as AASB124.

Corporations Act 2001, which requires disclosure of remuneration to the executives receiving the highest remuneration, and within a separate section of the directors' report. These requirements could lead to compensation details of different executives being disclosed in both the Remuneration Report, pursuant to section 300A, and in the financial reports in accordance with *AASB1046*.

Paragraph 5.2 required disclosure of remuneration components for each specified director and executive comprising:

- Primary benefits (cash salary, cash profit-sharing and other bonuses, separately identifying amounts attributable to long-term incentive plans other than equity compensation);
- Post-employment benefits (pension and superannuation benefits, post-employment benefits required to be approved by members);
- Equity compensation (value of shares and units, value of options and rights, increase in value of vested options);
- Other components not already disclosed (includes termination benefits).

Rather than disclosing the amounts actually paid during the accounting period, Para 6.1.3 of *AASB1046* required an accruals basis to be used in disclosing remuneration of directors and executives. Items of remuneration were to be disclosed in respect of the reporting period in which the benefits are earned, rather than necessarily when they are paid. For instance, a

bonus could be based upon a measure of performance calculated across the entire reporting period, but not be paid until the subsequent financial reporting period. The bonus was to be disclosed in the reporting period to which performance it relates, and not disclosed in the subsequent period (Para. 6.1.4).

The standard also provided guidance on measurement of compensation (Para. 6) including both non-share-based and share-based payments. Guidelines for measuring share-based payments, including options and other equity compensation, centred on the views of the International Accounting Standards Board in its then forthcoming *IFRS2 Share-Based Payment*. It was anticipated that when the Australian equivalent *AASB2 Share-Based Payment* was introduced, specific guidelines pertaining to the valuation of share-based payments to directors and executives would be removed from *AASB1046* (*AASB1046*, p.8). Principles used to determine the nature and amount of remuneration, and whether, and how remuneration relates to the entity's performance were also required to be disclosed in the annual financial report (Para. 7.5).

The standard also required disclosure of loans to specified directors and executives (Para. 9.1), and other transactions between the specified directors or executives and the disclosing entity (Para. 10.1).

As indicated previously, *AASB1046* was applied by all reporting entities during the time period addressed in the current study. Subsequently, however, many requirements of *AASB1046* were amalgamated into the revised *AASB124 Related Party Disclosures*.

2.2.2 AASB124 Related Party Disclosures

In implementing the Financial Reporting Council's policy of adopting International Financial Reporting Standards (IFRS) for application to reporting periods beginning on or after 1 January 2005, *AASB124 Related Party Disclosures*, the Australian Equivalent of *IAS24 Related Party Disclosures*, was issued in July 2004. At that time *AASB124* offered relief from providing disclosures pertaining to key management personnel, given entities were already required to comply with the more onerous disclosure requirements of *AASB1046*. The AASB, at a later date, decided it would be preferable to include the requirements of *AASB1046* as additional disclosure items in *AASB124* rather than retaining *AASB1046* as a separate standard (*AASB124*, p.4). These requirements have been inserted as paragraphs Aus25.1 to Aus25.9.3.

It was decided to remove the definition of the 'specified' directors and executives in favour of the definition of 'key management personnel' in *AASB124*. The categories of compensation, previously outlined in *AASB1046*, have been amended to align with requirements in *AASB119 Employee Benefits* and *AASB2 Share-Based Payment*.

2.2.3 AASB 2 Share-Based Payment

Prior to *CLERP 9* and the issue of *AASB1046*, and the later release of *AASB2 Share-Based Payment*, upon which *AASB1046* was partly based, there was evidence that companies were not complying fully with requirements to disclose the use of, and value of options granted to executives (Coulton and Taylor, 2002b; Parliamentary Joint Committee on Corporations and Financial Services, 2004). The objective of *AASB2* is to outline the financial reporting required by an entity when it undertakes a share-based payment transaction. Whilst the standard applies to all share-based transactions, it has clear implications for the measurement and disclosure of share-based payments to executives. *AASB2* is equivalent to *IFRS2 Share-Based Payment*. Companies are required to use *AASB2* when valuing share-based payments and options to comply with disclosure requirements under section 300A of the *Corporations Act 2001*.

In addition to recognising the value of share-based payments within the corporate accounts, and the recognition of share-based transactions in calculating the entity's profit or loss (Para. 50), the standard requires disclosure of sufficient information to enable users to understand the nature and extent of share-based payment arrangements that exist (Para. 44), and how the value of equity instruments granted during the period was determined (Para. 46).

In accordance with the standard, share-based payments should be measured at fair value. This is primarily determined as the fair value of the goods and services received (Para. 10). The standard notes that it is typically not possible to estimate reliably the fair value of services received from employees, so share-based payments are to be measured as the fair value of the equity instruments granted as part of the remuneration package (Para. 11). For equity instruments that vest immediately, disclosure and recognition is required at grant date. If the equity instruments do not vest until the employee or executive has completed a specified period of service, or some other performance condition, the estimated fair value of the instrument (estimated at grant date) should be recognised over the vesting period, or the expected vesting period if subject to a performance condition (Para. 15).

In determining the value of equity instruments granted, the entity is to take into account market prices and the terms and conditions upon which the equity instrument is granted (Para. 16). Appendix B to the standard documents the measurement process. It forms an integral part of the standard. Exemplars to assist in measurement and disclosure are provided in an Implementation Guidance document which accompanies, but does not form part of, *AASB2*.

For shares granted to employees and executives, the fair value of the shares are to be measured at the market price of the entity's shares, adjusted to take into account the terms and conditions upon which the shares are

granted (but not the conditions upon which they are expected to vest) (Para. B2). The fair value of share options is estimated by applying an option pricing model. The model to be used is not specified in *AASB 2*, however, the standard does note the Black-Scholes formula is likely to be appropriate for many entities, and outlines the information that all option models require at a minimum:

- (a) “The exercise price of the option;
- (b) The life of the option;
- (c) The current price of the underlying shares;
- (d) The expected volatility of the share price;
- (e) The dividends expected on the shares; and
- (f) The risk-free interest rate for the life of the option” (Para. B6).

The standard also documents other expected inputs to the option valuation formula to be: expectations about future volatility, dividends, and exercise behaviour. Anticipated early exercise of options should also be considered. If early exercise is expected, a binomial formula which uses contractual life as an input to the model is suggested as an alternative to the Black-Scholes formula (Para. B17).

It is important to note that all prior research, both within Australia and internationally, has been undertaken under regulatory regimes where share options are not required to be included in remuneration expenses in the income statement, and consequently have no impact on the profit calculation.

With the advent of *AASB2*, which applies to the reporting period examined in the current study, Australian reporting entities are now required to expense stock options over the expected vesting period (Para. 15). It is likely that this new requirement will influence the selection of remuneration components used by Australian reporting entities to reward managers.

In addition, measures of option values calculated by companies are likely to be more accurate than values calculated by academic researchers in prior research, given they rely on actual firm-specific parameters, rather than broad proxies generated by academics for the purposes of research (McKnight and Tomkins, 1999).

As a result of international convergence, similar requirements are being introduced progressively, internationally. The Financial Accounting Standards Board (FASB) in the US issued a revised statement: *FAS123 Share-Based Payment* in December 2004 to replace the original *Stock-Based Compensation*. It is effective from the first reporting period beginning after 15 June 2005. Similarly, the Accounting Standards Board (ASB) in the UK issued *FRS20 Share-Based Payment* in April 2004. Both standards are consistent with the *IFRS2* requirement to recognise the fair value of share-based payments in the income statement. Results of the current study, therefore, will also be useful to evaluate the potential impact of regulatory changes in remuneration policy beyond Australia.

In summary, since prior work examined Australian executive compensation practices, there have been significant changes to the accounting standard-setting regime. Tighter regulations now govern the disclosure of components of remuneration, performance hurdles, and share-based payment disclosure, measurement and recognition. As such, it is opportune to re-assess contemporary Australian remuneration practices to determine how remuneration components and determinants of compensation packages compare with those documented in prior research.

2.3 Australian Stock Exchange Requirements

The Australian Stock Exchange (ASX), operating independently of the Federal Government, ASIC and AASB, also provides guidelines for improved corporate governance disclosure. In August 2002 the ASX convened a Corporate Governance Council as a central reference point to assist companies to understand stakeholder expectations and to promote and restore investor confidence in the wake of media coverage of corporate excesses, the forthcoming *CLERP 9* legislative provisions, and the *Sarbanes-Oxley Act* in the US (ASX Corporate Governance Council, 2003). The purpose of the Council is to develop recommendations on corporate governance that reflect international best practice (ASX Corporate Governance Council, 2003), thereby enhancing the credibility and transparency of Australian capital markets. The Council comprises representatives of industry, legal and accounting bodies, including the Group

of 100, Business Council of Australia, CPA Australia, Law Council of Australia, Securities Institute of Australia, and Australian Shareholders' Association.

The Corporate Governance Council issued *Principles of Good Corporate Governance and Best Practice Recommendations* in March 2003. The release of the guidelines coincided with regulatory overhauls in capital markets around the world, and the guidelines reflect these changes to ensure Australia is congruent with global requirements for accountability and transparency (Hamilton, 2004).

The guidelines use a principles-based approach, traditionally associated with the UK rather than the rules-based 'black-letter' approach reflective of US practice (Hamilton, 2004). As such, the recommendations are not prescriptions, and they do not impose a 'one size fits all' approach to corporate governance. Instead, the body has adopted an 'if not why not' approach by requiring companies to provide a statement in their annual report disclosing the extent to which they have followed the best practice recommendations. Where companies have not followed all the recommendations they must identify the principles which have not been followed and provide reasons thereto (ASX Listing Rule 4.10.3). The reporting requirements apply to listed companies' first financial year commencing after 1 January 2003 (ASX Corporate Governance Council, 2003).

The guidelines are built around 10 principles, derived from the OECD's core principles of good corporate governance (Hamilton, 2004). Each principle is accompanied by several best practice recommendations in addition to specific guidance on disclosure. Broadly, the principles encompass the roles of the board and management, integrity and ethical decision-making, company reporting and disclosure, shareholder rights, internal control and risk management, remuneration policy, and stakeholder interests (ASX Corporate Governance Council, 2003; Hamilton, 2004).

Whilst a number relate indirectly to executive remuneration disclosures, *Principle 9: Remunerate fairly and responsibly* is particularly relevant to the focus of the current study. The stated objective of *Principle 9* is “to ensure that the level and composition of remuneration is sufficient and reasonable and that its relationship to corporate and individual performance is defined” (ASX Corporate Governance Council, 2003, p.51). This implies that companies are to adopt remuneration policies that attract and retain talented directors and employees in order to encourage enhanced performance of the company (Hamilton, 2004). The ASX guidelines acknowledge the importance of a clear relationship between remuneration and firm performance, and the importance of investors understanding the policy underlying executive remuneration payments (Hamilton, 2004). To demonstrate fair and responsible remuneration practices in accordance with *Principle 9*, boards are encouraged to define and disclose the company's remuneration policies

in a way that enables investors to understand the costs and benefits of those policies and the link between remuneration paid to directors and executives, and corporate performance. The board is also encouraged to establish a remuneration committee. To enhance investor understanding of remuneration, the structure of non-executive directors' remuneration should be distinguished from that of executives, and the payment of equity-based executive remuneration is to be made in accordance with policies approved by shareholders (ASX Corporate Governance Council, 2003, pp.51-57).

A survey of directors of ASX 100 companies undertaken by Ernst and Young suggests general support for the changes outlined in the ASX Corporate Governance Council principles (Matruglio, 2004). The directors interviewed indicated that new corporate governance regulation was needed. They embraced the spirit of the principles, feeling that they made good business sense. It was believed however, that they could lead to a focus on "merely ticking the boxes as opposed to fostering real, long-lasting change" (Matruglio, 2004, p.42). In a similar vein, both Kitney (2003) and Evans (2003) report that many business leaders are concerned about the new burden of additional corporate governance compliance requirements in the ASX guidelines, claiming they "unfairly put new burdens on directors at the expense of creating wealth for shareholders" (Kitney, 2003, p.1).

2.4 Conclusion

The disclosure of information concerning executive remuneration by Australian companies is influenced by a number of regulations. Since prior research examining Australian executive compensation practices was conducted, *CLERP 9* has increased disclosure requirements relating to performance hurdles, demonstrating the link between firm performance and remuneration, and requires disclosure for an expanded group of executives. In addition, disclosure is required within a separately identified Remuneration Report, and shareholders have an increased input to the remuneration process by way of a non-binding vote on the Remuneration Report. Accounting standards have also increased disclosure requirements in the financial reports, and provided comprehensive guidance on share and option valuations. One major impact of international convergence is the requirement to expense share option payments.

As a result of these recent, increased disclosure and recognition requirements, it is opportune to re-examine the components of Australian executive remuneration packages, and determinants of remuneration. It is likely that the mix of remuneration components used by Australian companies have changed as a result of regulatory amendments. As such, the current study compares contemporary remuneration practices to results of prior work to assess the impact of the changing regulatory framework.

Prior research, documenting the mix of compensation components, both within Australia and internationally, is reviewed in Chapter 3. It is also likely that economic and governance factors which relate to compensation design have now changed, to reflect changes in legislation. Factors identified in prior research to relate to executive remuneration level and structure are examined in Chapter 3, before hypotheses relating to expected indicators of remuneration design in the current Australian setting are presented in Chapter 4.

Chapter 3

RESEARCH ON EXECUTIVE REMUNERATION

This chapter reviews the body of evidence pertaining to both the structure and determinants of executive remuneration. It commences by outlining studies that detail the level and structure of executive compensation packages. Elements of remuneration found in prior Australian research are compared to those commonly used in US and UK firms. The limited body of research, restricted to the US environment, which has extended the analysis beyond CEOs to document remuneration of other members of the senior executive team, is then summarised.

Research that evaluates determinants of executive pay is outlined in Section 3.2. Firm performance, ownership structure, and board and executive characteristics, amongst other factors identified in prior research to relate to executive remuneration, are examined.

The limited research which has documented how determinants of CEO compensation compare to those of other senior executives is discussed in Section 3.3. The final section concludes the chapter by reiterating the major findings of prior research, and its limitations, and how the current study contributes to the literature.

3.1 Structure of Executive Compensation

3.1.1 Structure of US CEO Compensation

Jensen and Murphy (1990a) carried out an extensive study where they examined base salary and bonuses of 2,505 CEOs in 1,400 public companies from 1974 to 1988. They also gathered stock ownership and stock option data for CEOs in the largest 430 publicly held companies in 1988. To aid in comparisons over time, the authors examined compensation data for executives in more than 700 US public companies for the period 1934 through 1938. Jensen and Murphy (1990a) concluded that contrary to perceived opinion outlined in the press, CEOs were not receiving record salaries and bonuses. Although they increased over the latter 15 years of the study, salaries and bonuses were in fact just catching up to where they were 50 years previously⁴ (Jensen and Murphy, 1990a, pp.138-139). When Jensen and Murphy (1990a) compared inflation-adjusted pay changes of CEOs to those of a randomly selected sample of 20,000 salaried employees, they found CEO compensation to be no more variable.

⁴ The authors noted that during the period 1934 to 1938, the average salary and bonus for CEOs of leading companies on the New York Stock Exchange was \$882,000 (in 1988 dollars). For the period 1982 to 1988, the average salary and bonus for CEOs of comparable companies was \$843,000.

Murphy (1999) conducted one of the most comprehensive reviews of US compensation contracts to date. In doing so, he used data for CEOs from a variety of sources including: *Forbes* annual Compensation Surveys 1970-1996, Compustat's database covering CEOs in the Standard and Poor's (S&P) 500, the S&P Mid-Cap 400 and the S&P Small-Cap 600 from 1992 to 1996, in addition to a detailed survey of 1,000 large companies in 1992 and a Towers Perrin survey of bonus plans in 177 large companies conducted in 1996 (Murphy, 1999, p.2488-2489).

Although observing substantial heterogeneity in pay practices across firms and industries, the author confirmed most executive pay packages in the US contain four basic components: a base salary, an annual bonus tied to accounting performance, stock options, and long-term incentive pay. Base salaries of US firms are generally determined through competitive 'benchmarking', based primarily on industry salary surveys. Using the Towers Perrin survey data for 1997, Murphy (1999) noted the pervasive use of bonus plans across the firms surveyed. Bonuses are paid to top executives annually, based on a single year's performance.

Murphy (1999) also examined the 1992 option-grant practices of the 1,000 largest companies filing proxy statements between January and September 1993. Of the total 1,000 firms, CEOs of 627 received option grants in 1992. Of the 373 companies not granting options to the CEO in 1992, 120 made

option grants to other executives within the senior management team. Granting practice was relatively homogeneous across the sample, with most options having 10-year terms, with an exercise price equal to the fair market value at grant date. Only two firms included performance hurdles with their option grants.

Murphy (1999) compared remuneration practices across four industry groups: mining and manufacturing; financial services; utilities; and other industries (including wholesale and retail, and service industries). The author observed that pay levels vary by industry, with CEOs in electric utilities earning significantly lower levels of compensation than those in other industries, while CEOs in the finance industry earn significantly higher levels. Murphy also noted a substantial increase in the level of compensation over the period under study, with pay levels of CEOs in manufacturing and financial services increasing more than 50 percent (in 1996 constant dollars) from 1992 to 1996. He attributed the increase in pay, to a large extent, to the increase in stock option grants which replaced base salaries as the largest component of compensation for all industries except utilities.⁵

Data for almost 1,700 public companies, examined by Conyon and Murphy (2000), confirmed the increasing reliance on incentive pay in US compensation packages. Their study indicated that, in 1997, salary on

⁵ Consistent with other US studies reported, Murphy (1999) used a Black-Scholes option pricing model to calculate the value of share options for sample CEOs.

average constituted 29 percent of overall CEO pay (Conyon and Murphy, 2000, pp.F646-F647). In contrast, 63 percent of total compensation was variable, with stock options being the most prevalent type at 42 percent (Conyon and Murphy, 2000, pp.F646-F647). Lee (2002) cites evidence indicating equity-linked incentive pay has increased to such an extent in the US, that many US companies had given away 10 percent, and in some cases up to 30 percent, of their equity to executive directors and other staff over the previous five years.

3.1.2 Structure of UK CEO Compensation

Limited research has examined components of UK CEO remuneration payments. One exception is a study by Conyon *et al.* (2000). The authors noted the increasing disclosure of information relating to UK executive compensation contracts following the publication of the Greenbury report in 1995,⁶ and sought to document the characteristics of CEO compensation contracts of 200 large UK companies in 1997.

Cash bonus payments to CEOs represent approximately 20 percent of the total cash compensation. Although long-term incentive plans and share options form a significant component of executive compensation in the UK companies sampled, cash pay constitutes, on average, 80 percent of total compensation. This is a significantly higher proportion than US companies

⁶ Greenbury, R., 1995 *Director's Remuneration: Report of a Study Group Chaired by Sir Richard Greenbury*, Gee, London. Prior to the Greenbury report, only the combined cash emoluments of the non-named highest-paid directors were disclosed (Conyon *et al.*, 2000).

examined by Conyon and Murphy (2000). While 98 percent of sample firms operated an option scheme, only 67 percent of CEOs participated in the scheme at that time. Consistent with prior US studies, Conyon *et al.* (2000) used the Black-Scholes option pricing model to determine a value for options.

Conyon *et al.* (2000) noted that, unlike US CEO option contracts, the stock options received by the majority of CEOs of UK firms are subject to performance hurdles, not merely elapsed time, prior to vesting.⁷ While Murphy (1999) noted that US option contracts typically have an exercise term of 10 years, executive options for UK CEOs generally vest three years after grant date (Conyon *et al.*, 2000).

3.1.3 Structure of Australian CEO Compensation

Limited data availability has led to a paucity of research examining components of executive compensation packages in Australia until recent years. As noted in Chapter 2, information outlining specific components of Australian managerial compensation packages was not publicly available until 1998.

Deegan (1997) undertook a survey to determine the components of Australian management compensation packages, and the extent to which variation in compensation can be explained by specificity of firm resources

⁷ Conyon *et al.* (2000) found 62 percent of sample companies' option schemes attach performance criteria, compared to only two of the 1,000 US firms in Murphy's (1999) sample.

and the managers' human capital investments. Of the 61 useable responses, Deegan (1997) found that all respondents, with the exception of one, received a portion of their pay on a fixed basis. Twenty-seven respondents received all of their compensation as a fixed salary (Deegan, 1997, p.21). The remaining managers surveyed received bonuses tied to some measure of firm performance. In addition, a smaller proportion of managers held equity interests in the firm, usually as part of an employee share scheme. Only one respondent held share options.

Chalmers, Koh and Stapledon (2006) indicated the increased importance of incentive pay in a more recent study of Australian pay contracts. In a sample constructed from the top 200 Australian firms across the period 1999 to 2002, the authors observed a decrease in the importance of salary to approximately 60 percent of total pay. Cash bonuses contributed approximately 15 percent, and options approximately 20 percent to average executive pay. In valuing options, the authors relied on the Black-Scholes option pricing model where no value was reported by sample companies.

Coulton and Taylor (2002b) presented further, more detailed evidence concerning Australian compensation practices. Their study was limited to the 2000 financial year, and examined compensation data of 258 of the total of 511 firms listed on the Connect4 Annual Report database.⁸ All sample firms

⁸ The study excluded managed funds, no-liability mining companies and listed trusts, which are subject to different reporting requirements. Firms reporting in a foreign currency; firms

provided a base salary in 2000, with 51 percent of CEOs receiving a cash bonus. Thirty-one percent of sample CEOs were awarded options in 2000. A total of 153 sample firms (59 percent) had CEOs holding options at year-end. However, 72 firms did not award options during the year, confirming that options were not necessarily awarded every year. Average total compensation across the sample is \$1,061,433. Salary comprises 65 percent, bonuses 10 percent and stock options 11 percent, on average, of total compensation (Coulton and Taylor, 2002b). A value, determined to be 25 percent of exercise price, was calculated to proxy for stock option value.

Matolcsy and Wright (2006a) recognised the limited nature of prior evidence of CEO compensation structure in Australia, despite attention by the Federal Government and the business community to this issue. In doing so, they presented a comprehensive description of both the levels and structure of Australian CEO compensation, for a sample of 'top 500' firms for the years 1999, 2000 and 2001. The authors documented remuneration practices of a final sample which comprised 227 firms for 1999, 224 firms for 2000 and 245 firms for 2001.⁹ Consistent with Chalmers, Koh and Stapledon (2006), and with prior US research, option grants were valued using the Black-Scholes formula, but with adjustment for dividends.

with a change in CEO during the year; and those which did not comply with section 300A reporting requirements, and instead presented banded disclosures, were also excluded.

⁹ Matolcsy and Wright (2006a) used similar procedures to those adopted by Coulton and Taylor (2002b) to determine a final sample.

Matolcsy and Wright (2006a) divided the total sample into two groups, based on compensation contract types – firms that provide cash to the CEO, and have no equity-based compensation schemes in place, and firms that provide a combination of cash and equity-based compensation to the CEO.¹⁰ Of the total sample, 238 firms (34 percent) offer cash-only compensation, while 458 (66 percent) belong to the ‘equity’ group. 163 of the 458 equity firms (36 percent) receive grants within the year in question. Matolcsy and Wright (2006a) noted that firms are stable in their choice of compensation structure during the sample period, as no firm switched between the cash and equity groups.

In contrast to evidence presented by Chalmers, Koh and Stapledon (2006) and Coulton and Taylor (2002b), a small proportion of firms did not pay a base salary to CEOs.¹¹ The use of cash bonuses was less than that observed by Coulton and Taylor (2002b), with 34 percent overall (compared to 51 percent) receiving a bonus. Firms in the equity group are more likely than cash firms to pay CEOs a bonus. When industry membership was examined, the authors noted both compensation contract types exist across all industries. The highest level of equity contracts is found in the manufacturing industry (70 percent). Evidence suggested the level and

¹⁰ Equity-based compensation schemes must be approved by the annual general meeting of shareholders. ‘Cash’ firms had no such scheme approved. Firms in the ‘equity’ group did not necessarily grant options to CEOs during the sample period, it was sufficient that they had an equity-based compensation scheme in place to be included in the group (Matolcsy and Wright, 2006a).

¹¹ One firm in the cash group and three firms in the equity group paid no base salary to CEOs during the sample period.

design of compensation contracts differs across the two compensation groups and industry. Matolcsy and Wright (2006a) also found the majority of Australian option contracts have a term of five years. Performance hurdles were present in 34 percent of cases.

3.1.4 Comparing the Structure of Australian and Overseas CEO Compensation: Evidence to Date

Australian compensation contracts are more likely to resemble those used in UK firms than US firms. Salary and bonus, as a proportion of total remuneration, is similar, as is the proportion of share-based compensation.

The use of stock options as a form of CEO compensation is much higher in the US than in Australia and the UK. Lee (2002) notes this is likely to be due to the favourable financial accounting and tax implications of stock options in the US.¹² In addition, US accounting standards at the time of prior research effectively barred the attachment of any performance conditions to the vesting of stock options (Lee, 2002, p.72). However, in the UK it is common practice that executive stock options are only exercisable on the achievement of a performance condition (Bender, 2003, p.211). Australian firm use of performance hurdles appears to be more consistent with UK than US practices, although still not to the same extent as the 62 percent of UK companies observed by Conyon *et al.* (2000).

¹² In the US, at the time of prior research, any expenses related to stock options were not required to be recognised in the financial statements for either accounting or tax purposes (Lynch and Perry, 2003). As noted in Chapter 2, this situation has now changed.

Studies indicate that stock-based compensation is increasing in importance as a component of compensation packages in Australia. Coulton and Taylor (2002b) and Matolcsy and Wright (2006a) observed a greater incidence of stock-based compensation than prior research by Deegan (1997). Lee (2002) proposes the reason for this to be 'globalisation', whereby firms in other countries feel compelled to move towards a US-style of compensation in order to remain attractive employers, and to compete on the global labour market.

Australian research was conducted at a time prior to regulatory changes resulting from international convergence, and before *CLERP 9* changes to corporations' legislation affected executive remuneration. As a consequence, it is uncertain what impact the increased demand for disclosure of performance hurdles, the requirement to expense stock options, and the requirement for shareholders to vote on the remuneration report has had on compensation practices. The current study addresses this issue by examining the structure and level of executive compensation in Australian firms during the 2005 fiscal year, when all reporting entities were subject to the new, expanded regulatory requirements outlined in Chapter 2. Results are compared to earlier Australian research to determine if, and how remuneration practices have changed.

Resulting from limited disclosure of option values by sample firms, prior academic research in the US, UK and Australia has used a variety of methods to value options. With the exception of Coulton and Taylor (2002b), the majority (e.g., Murphy, 1999; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright, 2006a) used the option pricing model developed by Black and Scholes (1973). However, there is reason to question whether it is the most appropriate option valuation model to be used in research investigating the relationship between executive compensation and performance (McKnight and Tomkins, 1999). It should be noted at this point that these criticisms only relate to the use of the Black-Scholes model in academic research, not its use by companies in their valuation of options for reporting purposes (McKnight and Tomkins, 1999). One practical problem when using the Black-Scholes model in academic research of this type is that several of its parameters must be estimated by the researchers, and research results will be sensitive to the assumptions made by academic researchers about the components of the valuation model (McKnight and Tomkins, 1999; Murphy, 1999). These parameters include: the expected dividend yield for the remaining life of the option, the risk-free rate, the future volatility of the option, and the assumption that executives are believed to hold their options until expiration (McKnight and Tomkins, 1999).

Valuations provided in company reports, as a requirement of the recently released AASB2 are likely to provide a more accurate measure of option values than those calculated by academic researchers using the Black-

Scholes model. Company-generated values, although still calculated using the Black-Scholes, or some other option pricing technique, consider the likelihood of early exercise, the appropriate risk rate, and other firm-specific factors not available to academics. As such, the current study relies upon firm-generated valuations for options, now required to be presented in annual reports, rather than estimating a value using a model such as that developed by Black and Scholes (1973).

3.1.5 Structure of Non-CEO Executive Compensation

Examination of the compensation packages of non-CEO executives has received only scant attention in the literature to date (e.g., Ryan and Wiggins, 2000; Ang, Lauterbach and Schreiber, 2002). Ryan and Wiggins (2000) undertook the first comprehensive examination of the variation in pay arrangements between CEOs and lower-level executives. The authors examined both the structure and level of compensation across the top five senior executives. In a sample of 160 US firms in 1988, Ryan and Wiggins (2000) observed significant differences between the level of CEO compensation and that of lower-ranking executives, but found only minor differences in the level of compensation components between successive lower levels. The structure of executive compensation, however, did not vary between executive levels. The use of incentive-based pay methods, such as cash bonuses or options, was just as prevalent in lower-level executive compensation as in CEO remuneration.

Analysis of compensation structure across the top five-ranking executives in 166 US banking firms, between 1993 and 1996, also indicated a significant variation in compensation levels between CEOs and other ranking executives (Ang, Lauterbach and Schreiber, 2002). However, there was little difference in the overall level of compensation between the other top five-ranked executives. CEO remuneration packages consist of significantly greater levels of performance-contingent incentive-based payments, such as options and awards based on multi-year goal achievement, than do lower-level executives. When Ang, Lauterbach and Schreiber (2002) considered the size of the bank, compensation levels monotonically increased with bank size. The form of compensation also varied with bank size, with the weighting of base salary as a proportion of total pay increasing as bank size decreased.

There is no evidence that documents the components or levels of compensation beyond the CEO in Australia. Top executives, typically acting as a team, are responsible for implementing organisational strategy, and compensation schemes are an integral component of this implementation (Carpenter and Wade, 2002). Consequently, the current study examines variation of executive pay across the senior executive team, and compares both the level and structure of pay across the top five executives of Australian firms, in addition to the CEO, in a bid to better understand Australian executive pay practices.

3.2 *Determinants of Executive Compensation*

A considerable proportion of studies that examine executive compensation and its determinants focus on the association between firm financial performance and executive pay. Again, this research tends to be limited to CEOs. This body of research which, for the most part, has been undertaken in the US and the UK, is reviewed in the next section. Studies that posit additional explanatory variables, related to firm, governance and ownership characteristics, are discussed in Section 3.2.2. Limitations of prior work, and how the current study addresses these limitations are then outlined.

3.2.1 Firm Performance

Chapter 2 documented changes in the regulatory regime in Australia which serve to ensure companies place greater importance on justifying the link between executive pay practices and firm performance. The requirement to document the proportion of executive pay which is subject to performance hurdles, and the ability of shareholders to vote on the contents of the Remuneration Report all act to heighten the importance of portraying a link between executive pay and firm performance. Academic research has mirrored public debate, where extensive research, predominantly conducted in the US, has examined the correlation between executive pay and firm performance. The most recent research has particularly focussed upon the extent to which incentive entitlements are linked to company performance, and ultimately shareholder value (O'Neill and Iob, 1999).

3.2.1.1 Firm Performance: Overseas Evidence

A number of US studies examined the pay-performance relation in specific industries. Attaway (2000) studied the association between company performance and CEO compensation within the computer and electronics industry. The author measured CEOs cash-based compensation (salary and cash bonus) and compared it to return on shareholders' equity for a sample of 42 CEOs in 1995. The study indicated a positive relationship between firm performance and CEO compensation. The CEO's age, length of tenure and extent of stock ownership were also found to be significantly related to CEO compensation.

Rupp and Smith (2002) performed a similar study in the US metals industry, but assessed the pay-performance relation in a sample of small, similar-sized companies. The authors observed a significant and positive association between CEO salary plus cash bonus, and firm performance, with firm performance, alone, explaining 56 percent of the variation in compensation across the sample.

Murphy (1985) was critical of studies that measure compensation solely on a cash basis. By omitting potentially performance-sensitive compensation components, such as share options or other long-term incentives, any examination of the relationship between pay and performance is likely to be biased (see also Conyon and Sadler, 2001; Conyon, Gregg and Machin, 1995). Murphy (1985) carried out a longitudinal study, where he examined

data relating to 461 executives from 72 of the largest US manufacturing companies between 1964 and 1981. The results confirmed that long-term compensation, in addition to cash compensation, is sensitive to firm performance, measured by the rate of return realised by shareholders.

Following on from Murphy's (1985) conclusion that long-term compensation components are more likely to be performance-sensitive, Jensen and Murphy (1990b) undertook an extensive study of the pay-performance association for 2,505 US CEOs from 1,400 companies over the period 1975 to 1988. The authors determined pay-for-performance sensitivities using both the change in salary and bonuses, as well as total compensation, which included long-term incentives and share options. Consistent with Murphy (1985), Jensen and Murphy (1990b) used a market measure of firm performance – rate of return on common stock. The authors found substantial variation across their sample. For the 250 largest companies, every \$1,000 change in the market value of a company related to a change of only 6.7 cents in salary and bonus over two years. When all sources of compensation were considered, a \$1,000 change in corporate value corresponded to a change in CEO compensation of \$2.59. Although statistically significant, the authors concluded this result indicates pay is not sensitive enough to firm performance, that is, the change in pay-level is small for an occupation where incentive pay is expected to play an important role.

Research examining the relationship between executive pay and firm performance in the UK provided similar results to those in the US. Early studies (e.g., Main and Johnston, 1993; Gregg, Machin and Szymanski, 1993) utilising cash-based compensation as a measure of CEO pay observed a weak positive link. Gregg, Machin and Szymanski (1993) noted that what statistical link did exist during the 1980s disappeared in the early 1990s. Conyon and Sadler (2001) attributed this to the changing nature of executive compensation packages, where they moved towards using more stock-based compensation. As a consequence, merely studying cash as a measure of compensation is likely to bias against finding a result.

Main, Bruce and Buck (1996) undertook the first UK study incorporating share options in the measure of CEO pay. Although the sample size was relatively small (60 large UK firms over the period 1983 to 1989), a much stronger relationship between pay and share performance was observed. McKnight and Tomkins (1999) reported similar results across a more extensive sample (109 companies over the period 1991 to 1995). They used both accounting (accounting profits) and market (total shareholder return) values of firm performance. The authors separately estimated regression models to assess determinants of salary, annual bonus and share options, and in so doing, found regression estimates to be dissimilar for each remuneration component (McKnight and Tomkins, 1999, p.237). Executive salaries are more likely to be related to firm size than economic performance. The authors observed only a weak positive link between cash salaries and

their market measure of firm performance. Changes in the value of share options, however, were observed to be strongly and significantly related to shareholder returns over both the short and long term.

In summary, both US and UK studies present consistent evidence that executive compensation is related to firm financial performance (Murphy, 1985; Jensen and Murphy, 1990b; Main, Bruce and Buck, 1996; McKnight and Tomkins, 1999). Remuneration exhibits a stronger association with market measures of firm performance than accounting measures of performance, and this is more evident when share-based compensation is included (Murphy, 1985, McKnight and Tomkins, 1999). McKnight and Tomkins (1999) confirm that the connection varies when remuneration components are separately examined.

3.2.1.2 Firm Performance: Australian Evidence

Research examining the relationship between executive compensation and firm performance in Australia is limited. Defina, Harris and Ramsay (1994) examined changes in CEO pay for 89 of the largest Australian companies in 1990. Remuneration was measured as cash-based compensation only. The authors found no evidence of an association between corporate performance, measured as a return to shareholders, and CEO pay.

Izan, Sidhu and Taylor (1998) conducted a longitudinal study whereby they examined the link between CEO pay and both accounting (return on equity)

and market (return to shareholders) performance measures of 99 Australian firms from 1987 to 1992. The authors were unable to find a relationship between pay and either accounting or market performance.

Matolcsy (2000) noted that annual performance targets, used to determine cash compensation, are likely to be influenced by the state of the economy in addition to firm-specific variables. He predicted that the weak link between compensation and corporate performance observed by, for example, Defina, Harris and Ramsay (1994) and Izzan, Sidhu and Taylor (1996), is expected if the research was undertaken during periods of economic downturn. Contrary to the majority of prior US work, Matolcsy (2000) utilised accounting measures of performance in his analysis. He argued that in contrast to the US, cash bonuses represent a greater proportion of variable compensation in Australian contracts, and cash bonuses are based on accounting measures of performance, not market measures (Matolcsy, 2000). He found, consistent with his expectations, no relation between cash measures of compensation and firm performance during periods of economic downturn. However, a positive association is evident during periods of economic growth.

In contrast to the majority of prior Australian research carried out using data from the 1990s, Merhebi *et al.* (2006), consistent with prior US research (Jensen and Murphy 1999b), documented CEO pay-performance sensitivity to be positive and statistically significant. The authors constructed a sample of 822 CEOs from 722 public companies over the years 1990 to 1999. Again,

only cash was utilised as a measure of CEO compensation. Consistent with Defina, Harris and Ramsay (1994) and Izan, Sidhu and Taylor (1998), CEO pay levels were estimated by the mid-point of the reported remuneration band. Both accounting and market measures of firm performance (total shareholder return, return on assets, and return on equity) were estimated. Measures of firm size and firm risk were also included in the analysis. Merhebi *et al.* (2006) found the extent of cash compensation to CEOs can be attributed to both firm size and market-based performance.

Coulton and Taylor (2002b) recognised limitations with the majority of prior Australian research that only examined determinants of cash compensation of CEOs. The authors also noted the public debate directed at the questionable link between executive pay and firm performance, and whether awarding share options represented an appropriate method of aligning manager and shareholder interests. Coulton and Taylor (2002b), in particular, focused on the extent to which stock-based compensation relates to firm performance (measured as return on assets and total shareholder return), amongst other determinants. The authors observed no significant difference in total shareholder return between firms which offered equity awards compared to those which did not. However, the percentage of total compensation attributed to stock-based awards and bonuses was found to positively relate to total shareholder return as a measure of firm performance. Larger firms were also observed to reward CEOs using greater proportions of stock-based compensation than did smaller firms.

The most recent Australian study to examine the link between firm performance and executive compensation examined whether compensation structure, rather than level, was related to firm performance (Matolcsy and Wright, 2006c). Australia offers a setting where a substantial proportion of CEOs are compensated by cash only (Matolcsy and Wright, 2006a), when compared to the US, where equity-based compensation is routinely offered to CEOs (Murphy, 1999). The majority of prior research adopted the premise that equity-based compensation is an efficient method of maximising firm performance, and consequently shareholder value (Shleifer and Vishny, 1997; Holmstrom, 1979; Smith and Watts, 1982). However, other studies have argued that risk-averse, undiversified managers, with a significant portion of wealth tied to share price, will value the equity proportion of remuneration less than market price (Beatty and Zajac, 1995; Meulbroek, 2001).

Matolcsy and Wright (2006c) proposed that it may not be efficient for all types of firms to award equity-based compensation to CEOs. They asserted that if compensation structures are set efficiently, based on the underlying economic characteristics of the firm (Core, Holthausen and Larcker, 1999; Bushman and Smith, 2001), then firm performance will be maximised. For some organisations this may entail the use of cash-only compensation. The

authors used the same sample reported in Matolcsy and Wright (2006a),¹³ and divided them into two groups based on contract type – firms which provide only cash compensation to the CEO, and those which have equity-based compensation schemes in place. Both accounting and market-based measures of firm performance were calculated in order to compare firm performance across the two groups – return on assets, return on equity, and change in market value of equity adjusted for dividends. Results indicated little variation in firm performance between the two groups, with the exception of return on assets. The cash group had significantly higher return on assets compared to the equity group. Matolcsy and Wright (2006b) found return on assets to be positively related to the level of compensation in the cash group. These results, taken together, indicated that return on assets is likely to be used as a performance target when determining bonus-based remuneration for CEOs in the cash group, and the higher level of return on assets has translated into higher levels of remuneration.

3.2.1.3 Summary of Findings: Firm Performance as a Determinant of Executive Compensation

Results of prior research, both within Australia and overseas, indicate a positive association between pay and firm performance, however, this relationship is more evident when share-based compensation is examined. The majority of prior US research has measured firm performance using market measures (Murphy, 1985; Jensen and Murphy, 1999a), which is

¹³ Details of this study are reported in Section 3.1.3.

thought to be particularly relevant in a setting where compensation payments contain a significant stock component (Matolcsy, 2000). Surprisingly, in the UK and Australia, where cash payments are more prevalent (Matolcsy, 2000; Conyon *et al.*, 2000), research comparing accounting, in addition to market, measures of performance to compensation has elicited mixed results.

Few studies have observed any relation to accounting performance. Matolcsy (2000) provided one exception, however, only in periods of economic growth. Matolcsy and Wright (2006c), as another example, found compensation of Australian CEOs who are paid only cash salary and bonus, to be related to return on assets. Overall, results appear to indicate that both cash and share-based compensation is more likely to be related to market performance (McKnight and Tomkins, 1999; Coulton and Taylor, 2002b). When examining the pay-performance link, prior research found that determinants differ across the various components (McKnight and Tomkins, 1999).

Since prior research has been carried out, as indicated in Chapter 2, the regime governing disclosure and recognition of remuneration has changed in Australia. As a result of changes resulting from *CLERP 9*, as indicated previously, companies are required to document the proportion of remuneration linked to performance targets. In addition, shareholders have more input to the remuneration-setting process by way of a non-binding vote on the Remuneration Report. In so doing, they can express their views as to the appropriateness of remuneration methods used, and how clearly they

relate pay to performance. These changes are likely to ensure a closer alignment between executive pay and both accounting and market measures of firm performance. The current study examines performance as a determinant of executive pay in the context of this new regulatory regime, to assess whether a stronger relationship between pay and firm performance now exists in Australian firms.

3.2.2 Firm Characteristics and Governance Mechanisms

As a result of the failure of much of prior research to observe a strong relationship between executive pay and firm performance (Conyon and Peck, 1998), a number of studies have assessed the additional explanatory power of a range of firm characteristics, governance mechanisms including board structure, and ownership structure, in clarifying CEO pay. The prior literature can be divided into two main streams – those which examine determinants of the level of CEO pay, and those which assess factors explaining pay structure. Both streams of research are reviewed.

The economic characteristics of firms have been posited as important determinants of CEO pay. The size of firms, the complexity of their operations, and growth opportunities are considered to influence demand for higher quality executives, and therefore the level of compensation (Rosen, 1992; Smith and Watts, 1992; Core, Holthausen and Larcker, 1999).

The board of directors is the primary internal corporate governance mechanism responsible for setting management compensation, and monitoring senior executives (Finkelstein and Hambrick, 1996; Jensen, 1993). The board also represents shareholders in an attempt to ensure managers make decisions that are in shareholders' interests, and that increase firm value, and consequently shareholder wealth (Jensen, and Meckling, 1976; Jensen, 1993). Prior research has sought to gauge the monitoring capacity of the board and its ability to ensure alignment between manager and shareholder interests, and reduce information asymmetry.

Ownership attributes have also been investigated by a number of prior studies. Share ownership by CEOs is expected to influence the extent to which managers and shareholders interests are aligned, and the capacity of the board to monitor the actions of senior management (Core, Holthausen and Larcker, 1999; Chalmers, Koh and Stapledon, 1996).

3.2.2.1 Firm Characteristics and Governance Mechanisms: Overseas Evidence

Agarwal (1981) developed a conceptual model comprising both individual and organisational variables in an attempt to explain, more fully, variation in CEO remuneration (defined to include only salary and bonuses). The study only assessed determinants of cash compensation. However, it was arguably completed prior to the emergence of incentive compensation as a major component of executive pay. Agarwal (1981) stated that prior to his work,

studies of executive compensation included only two predictors – profitability and company size, with limited success. Although prior research found a statistical relationship between company size and executive pay, the author noted that it is not entirely clear what this relationship means. That is, it is uncertain what aspect of company size is related for the level of executive pay.

He sought to clarify prior results by examining two factors which he argued relate to firm size: job complexity, and employer's ability to pay. Job complexity was measured as: the span of control (number of persons directly supervised), number of functional divisions, number of management divisions, and the geographical diversity of the operations. The employer's ability to pay encompassed financial measures of profit and return on assets.

The model was tested on data from 168 CEOs of US life insurance companies, with the data being collected using a mailed questionnaire. The respondents covered a wide range of firm sizes, which provided a setting likely to maximise variation in the extent of job complexity and employer's ability to pay. Collectively, the independent variables accounted for almost 80 percent of the variance in CEO compensation. Three of the four job complexity measures were positive and significant (the number of persons supervised, number of management divisions and geographic diversity), confirming that as executive jobs became more complex CEOs received higher levels of compensation. The measure of financial performance was

also positively related to the level of CEO pay. The author confirmed that company size is closely related to job complexity and the employer's ability to pay. Both these variables succeed in capturing the variance in executive compensation accounted for in prior studies as relating to company size.

Sanders and Carpenter (1998) also considered organisational complexity, when they evaluated the success of the board's monitoring ability in the context of increased complexity resulting from a firm's degree of internationalisation. The authors argued there is a need for more complex managerial decision-making processes resulting from heterogeneous cultural, institutional and competitive environments, and the need to coordinate and integrate geographically dispersed resources. Consequently, firms operating internationally are more likely to require more stringent governance structures to deal with such complexity. Internationalisation, and reliance on foreign markets for customers and factors of production, means senior executives are required to process greater amounts of diverse and conflicting information (Finkelstein and Hambrick, 1996; Sanders and Carpenter, 1998). The ability to successfully operate at this level requires greater expertise, and is consequently likely to result in higher levels of compensation.

Internationalisation increases executives' specialist knowledge and information asymmetry between senior management and the board. The ability of the board to effectively monitor executives in an international

context is therefore made more difficult (Sanders and Carpenter, 1998). Sanders and Carpenter (1998) sought to more fully understand the consequences of organisational complexity from internationalisation on governance mechanisms, including executive compensation and board structure.

Assessing a sample of 258 large US firms, the authors observed that organisational complexity resulting from internationalisation did have an impact on governance and remuneration. As predicted, firms sought to align the interests of executives and shareholders and manage the information asymmetry issues arising from internationalisation, through higher, longer-term CEO pay, larger top management teams and boards, and the separation of the roles of chair of the board and CEO positions. Contrary to expectations, however, the proportion of outside directors was positively associated with a firm's degree of internationalisation. The authors attributed this to the need for increased governance measures in response to increased complexity.

Canyon and Peck (1998) also examined board monitoring and governance structures in a bid to more fully explain CEO compensation levels. The authors examined the role of board control, board structure and remuneration committees, in determining executive pay of a sample of UK companies. Despite the important role company boards play in setting compensation, Canyon and Peck (1998) noted that there was little UK research, at that time,

which examined this issue. The study was carried out at a time where there were substantial changes to executive pay and other governance mechanisms as a result of the Greenbury Committee report (Greenbury, 1995).

Canyon and Peck (1998) cited evidence that questions the ability of outside directors to effectively monitor CEOs and the top management team (e.g., Zajac and Westphal, 1994; Finkelstein and Hambrick, 1996). Outside directors have a low financial stake and low equity holdings in the firm, resulting in reduced monitoring capability (Finkelstein and Hambrick, 1996). In addition, the independence of outside directors who have recently been appointed by the firm's CEO, or who are former members of the company's management team, may be challenged. These situations are likely to lead to poor monitoring ability of the board, which is likely to result in increased executive compensation.

The Greenbury Report (Greenbury, 1995) urged the adoption of remuneration committees, consisting solely of non-executive directors. Consequently, Canyon and Peck (1998) expected the existence of independent compensation committees to more clearly link executive remuneration to shareholders' expectations for maximum return. In addition, the authors examined the extent to which remuneration levels are affected by CEO duality. CEOs, who also undertake the role of chair of the board, are likely to have more power or influence over the board in its deliberations over

executive compensation (Finkelstein and Hambrick, 1996; Conyon and Peck, 1998).

Contrary to expectations, however, the authors observed board control had a limited effect on top management compensation. Neither the proportion of outside directors nor CEO duality was related to management compensation. Again, contrary to expectations, companies adopting remuneration committees, or with high proportions of outsiders on those committees, generally had higher levels of top management pay (Conyon and Peck, 1998, p.154). This result was attributed to the possibility of 'collusion' between executive and non-executive directors who sit on each others compensation committees and bid-up executive earnings (Ezzamel and Watson, 1997).

Anderson and Bizjak (2003) also assessed the role of the compensation committee in determining executive pay, but in a US setting. Following 1992 Securities and Exchanges Commission (SEC) regulations addressing the membership and role of compensation committees, the authors sought to ascertain a rationale for the government regulation. Tax legislation also changed at that time to require that compensation committees be composed solely of two or more outside directors, or performance-based executive pay in excess of \$1 million was not deemed to be a deductible expense for tax purposes (Anderson and Bizjak, 2003). Examining a random sample of 110 NYSE firms from 1985 to 1998, the authors found evidence that prior to the regulation taking effect, independent directors held 59 percent of

compensation committee seats. By the end of the sample period (1998), inside directors were essentially absent from compensation committee membership, and independent directors held the majority of seats (on average 75 percent).

While the regulations increased compensation committee independence, Anderson and Bizjak (2003) observed little evidence that the presence of outsiders on the compensation committee was advantageous. Firms with compensation committees comprising a greater proportion of outside directors used no more performance-based pay than those with less outside-director representation. The authors also found no evidence that CEOs sitting on their own compensation committees receive higher levels of pay than CEOs who are not members of their compensation committee. In light of their findings, Anderson and Bizjak expressed reservations about the need to regulate the structure of the board's compensation committee. They noted that the regulation could have unintended adverse consequences such as preventing founder CEOs from sitting on the compensation committee and providing input on subordinates' pay packages.

Hill and Phan (1991) examined the extent to which CEO tenure reflected the CEO's influence over boards, and the likelihood that CEO compensation packages reflect CEO preferences, rather than providing evidence of the board as an effective monitoring process. The authors argued that the longer the tenure of CEOs, the more entrenched they were likely to become, and

consequently the more power to pursue their own interests they were likely to have. Hill and Phan (1991) provided evidence that tenure gives CEOs time to build influence within firms and to tie compensation more closely to their own preferences. As the length of tenure increased, the relationship between pay and stock returns became weaker. The authors concluded this to be evidence of CEOs circumventing monitoring and incentive-alignment mechanisms to strengthen their positions, relative to shareholders.

A recent UK study clarified the association between CEO tenure and executive compensation. McKnight and Tomkins (2004) extended the work of Hill and Phan (1991) by splitting the pay construct into three components: salary, bonus and share options. The authors argued that through increased tenure, an executive can build a proven 'track record' and develop relationships with key individuals, both within and outside the organisation (McKnight and Tomkins, 2004, p.28). This allows executives to acquire the respect and confidence of board members. As a result, an executive in this position is also likely to influence the appointment of board members who are sympathetic to his or her views and ideas. The CEO in such a position is also likely to gain control over, or influence, the pay-setting process and in turn design remuneration schemes to meet his or her preferences (Hill and Phan, 1991; McKnight and Tomkins, 2004).

Consistent with Hill and Phan (1991), results indicated CEO tenure had no impact on salary plus bonus. However, when performance bonus was

examined alone, a significant yet negative association emerged (McKnight and Tomkins, 2004, p.33). This result justified segregating the pay components to provide some insight into direct relationships, and indicates a CEOs preference for more stable salary as opposed to variable bonus.

An interesting result to emerge from the study was evidence of a curvilinear relationship between CEO tenure and the proportion of salary and bonus to total pay. The dominant component of the remuneration scheme shifted at about year six of tenure. The cash component (salary and bonus) increased as a proportion of pay, while the more risky long-term incentive component decreased at year 6. As such, the authors concluded length of tenure in some way enhances the CEO's ability to influence the board decision-making process with regards to compensation structure in UK firms.

Additional human capital characteristics of the CEO were combined with firm performance to examine determinants of executive pay in a sample of 125 of the largest UK firms in 1996 (Laing and Weir, 1999). The CEO characteristics which were investigated comprised: the age of the executive, the possession of professional or educational qualifications, the number of additional public company directorships held, whether the CEO was previously employed as a director on the company's board, and the length of tenure. Laing and Weir (1999) expected each of these constructs to be indicative of the extent of influence over the board and its decision making processes, and the quality of the CEO in terms of experience and expertise. A positive, weak link was

observed between both company size and performance, and executive remuneration. Although there was some evidence that human capital constructs play a part in determining executive pay, their impact was found to be statistically weak. Consistent with Hill and Phan (1991) and McKnight and Tomkins (2004), evidence indicated that the number of years in the post of top executive, as well as the number of years spent on the board of directors is seen as confirmation that job-specific experience leads to higher remuneration.

Buchholtz, Young and Powell (1998) attempted to explain the variation in the strength of the CEO pay-firm performance link from two competing perspectives – managerial power and board vigilance. In justifying their study, the authors pointed to the unsuccessful efforts of prior research to find a strong relationship between CEO compensation and firm performance (e.g., Jensen and Murphy, 1990b); and limited attempts to identify moderators of the CEO pay-performance link (e.g., Tosi and Gomez-Mejia, 1989). The authors proposed that if CEOs dominate the compensation-setting process, the link between CEO pay and firm performance will be reduced when CEOs have greater power or influence. However, if board members are vigilant in their monitoring role, there will be a greater alignment between CEO pay and firm performance when CEOs are more experienced and better able to improve firm performance, or when committee members are more experienced and better skilled at developing CEO remuneration plans (Buchholtz, Young and Powell, 1998, p.7).

The authors used various characteristics of CEOs, board and compensation committee members as proxies for their constructs, arguing these characteristics have served in prior studies as effective indicators of managerial power, and as predictors of strategic change and board involvement in restructuring (see for example Finkelstein, 1992). The characteristics utilised in testing included: CEO age, CEO tenure, the proportion of compensation committee members with CEO experience, and whether CEOs also chair the board of directors. They developed alternative hypotheses from their two opposing arguments relating to the extent to which managerial power or influence, as opposed to board vigilance, impact on the link between the level of CEO pay and firm performance.

From the perspective of managers exerting power or influence over the board, older CEOs, with longer tenure in the role, or who are also chair of the board are expected to have greater ability to influence the board decisions relating to executive pay levels, and their link to performance. They are expected to be in a position of greater authority or trust than CEOs who may be younger, newer to the role or who do not also carry out the role of board chair. Consequently, the authors expected the link between pay and performance to be decoupled.

From the board vigilance perspective, in situations where the CEO is older, has been in the role for longer periods, or where the CEO also holds the

board-chair post, a stronger link between pay and performance is expected. The authors argued that in these situations, as life experience increases through age, or as CEOs are expected to have more experience or responsibility, there is an expectation that they will be held more accountable for their actions, and the board is going to place tighter restrictions in assessing performance by more closely aligning pay levels with firm performance.

Buchholtz, Young and Powell (1998) gathered data from 1993 proxy statements of 277 of the US Fortune 500 in 1992.¹⁴ Results provided strong support for the board vigilance perspective, with CEO duality being the only result that was not significant. The authors concluded that as the ability of CEOs to control firm performance increases (evidenced by increasing CEO age and tenure), so too does the extent to which compensation is tied to firm performance. The link between CEO pay and firm performance also increases with the compensation committee's ability to effectively establish that link (proxied by greater CEO experience amongst committee members). CEOs were not observed to use their power or influence to decouple the pay-performance link.

The moderating influence of a firm's corporate governance structures on the pay-performance link was also the subject of study by Core, Holthausen and

¹⁴ 1993 proxy statements were the first following significant changes in US remuneration disclosure.

Larcker (1999). The authors sought to determine whether board composition and ownership structure induced optimal CEO contracting and firm performance. They noted that critics of CEO compensation practices argue that the board is influenced by the CEO, and as such does not structure the CEO's compensation package to maximise shareholder value. By including a set of board and ownership structure variables in the compensation regression, the study examined whether: (1) the CEO compensation model is mis-specified and the level of CEO compensation is not adequately linked to firm performance; or (2) certain board and ownership structures are reflective of CEO entrenchment. CEO entrenchment is likely to be evident where the CEO determines the agenda and information given to the board, and the board members are unwilling to take positions in opposition to the CEO, especially concerning compensation (Core, Holthausen and Larcker, 1999, p.373). This is likely to occur where there is little equity ownership by directors on the board, boards are too large, or where the CEO is also the chair of the board.

The authors gathered data for 205 US publicly-traded firms over a three year period. Compensation data were obtained from a major compensation consulting firm (originally gathered using a mail survey) from 1982 to 1984, and included both cash and share option components. Eight measures of board composition were used to proxy for the effectiveness of board monitoring. These included: evidence of CEO duality, size of the board, the proportion of inside director,; outside directors appointed by the CEO, and

outside directors over the age of 69. Variables addressing ownership structure included: the proportion of stock owned by the CEO, the proportion of shares owned by non-CEO insiders, the percentage of stock ownership of each outside director, and the existence of outside blockholders.

Results indicated that board and ownership structures are associated with the level of CEO pay, after controlling for the economic determinants of compensation. CEO pay is a decreasing function of the proportion of the board composed of inside directors, and an increasing function of board size, the proportion of the board composed of outside directors appointed by the CEO, whether the CEO is also the board chair, the percentage of outside directors over 69, and the proportion of the board who are grey outside directors.¹⁵ In relation to ownership structure, CEO compensation decreases as the CEO's ownership stake increases. CEO compensation is lower when there is a non-CEO internal board member or external blockholder who owns at least five percent of the shares. The authors concluded that where firms have weaker governance structures, the CEO is likely to become entrenched and have more power or control over board decision-making, thus leading to greater levels of pay.

Rather than examining factors that determine the *level* of CEO pay, a number of authors have attempted to establish factors that relate to the *structure* of

¹⁵ 'Grey outside directors' are not employees but have other dealings with the companies on whose boards they sit. These dealings could include offering legal or accounting advice to the firm (Lee, 2002; Cahan, Chua and Nyamiori, 2005).

CEO pay contracts. For the most part, this research has concentrated on determinants of incentive pay, and particularly stock options as a proportion of total compensation. Top managers are portrayed in the literature as being risk-averse (Mehran, 1995). This implies that managers will want their compensation structured so as to bear less personal risk, thus leading to a preference for fixed cash over equity-based compensation (Mehran, 1995). Tying executive compensation to firm performance by way of increased equity pay is argued to encourage managers to maximise firm value by making value-maximising, riskier decisions than they would otherwise make (Holmstrom, 1979; Grossman and Hart, 1983). The importance placed on equity-based pay in US firms has led to research examining determinants of equity pay.

Smith and Watts (1992) and Gaver and Gaver (1993; 1995) suggested that firms with valuable growth opportunities are anticipated to employ incentive compensation rather than fixed salary, in order to better align manager and shareholder interests. Growth firms have a relatively high degree of information asymmetry between managers and shareholders (Gaver and Gaver, 1995). This arises because managers have private information about the value of future projects (Bizjak, Brickley and Coles, 1993; Gaver and Gaver, 1995), and it is difficult to observe managerial effort in growth firms (Smith and Watts, 1992). As such, they are likely to use greater proportions of incentive-based, rather than fixed, pay to encourage managers to act in the interests of shareholders. Consistent with expectations, Lewellen,

Loderer and Martin (1987), Smith and Watts (1992) and, Gaver and Gaver (1995) all found that growth firms pay higher levels of total compensation to their executives, with a larger proportion of that compensation being in the form of long-term incentive remuneration. Executives in non-growth firms received a larger proportion of their pay as a fixed salary.

Mehran (1995) examined the importance of board and ownership structure in determining the structure of compensation packages of 153 randomly selected US manufacturing firms for the period 1979 to 1980. Although restricted by industry, the study was not limited to large firms. Given one of the most important directors' tasks is to set the level and structure of executive compensation (Fama and Jensen, 1983), the author examined how the composition of the board affects the structure of executive pay arrangements. He proposed that outside directors are more independent of top management, and are thus more likely to represent the interests of shareholders. Mehran (1995) also argued that external blockholders are in a position to monitor the board's actions with regards to executive pay.

Mehran (1995) found that firms with more outside directors have a higher percentage of their executive compensation in equity-based form. The proportion of executives' pay that was equity-based was inversely related to their percentage of equity holdings, indicating that the board considers executive's total incentives and risk in designing pay packages. Firms in which a higher percentage of the shares were held by outside blockholders

used less equity-based compensation, suggesting that monitoring by external blockholders substitutes for incentive pay in encouraging executives to maximise firm value.

Yermack (1995), noting that prior literature generally treated stock options as a minor part of a broader investigation, studied determinants of only stock option awards to CEOs of large US corporations between 1984 and 1991. He examined a comprehensive set of explanatory variables, comprising both firm and individual executive characteristics. Consistent with Mehran (1995), Yermack (1995) expected the incentives provided by stock option awards to decrease when CEOs hold large fractions of their own firm's equity. He also hypothesised that incentives provided by stock options were likely to be larger in firms with valuable growth opportunities, consistent with Smith and Watts (1992) and Gaver and Gaver (1995). The age of the CEO and closeness to retirement, membership of highly regulated industries such as utility, banking and insurance industries, closeness to breaching debt constraints, and constraints on liquidity which affect the ability to pay cash salaries were also all proposed as determinants of the use of stock options by US firms.

The results offered some support for the view that stock options are used less intensively in regulated industries. When liquidity is scarce, firms are more likely to move compensation away from cash towards stock options. Contrary to Mehran (1995), Yermack (1995) found companies do not

consider the equity owned by CEOs when providing incentives from stock awards. While not consistent with Mehran's (1995) result, the author noted that his results align with those of prior work by Lewellen, Loderer and Martin (1987) and Kole (1993). Firms are no more likely to increase incentives by offering stock option awards to CEOs as they approach retirement. Yermack (1995), in reconciling his results with prior work, noted that his measure of stock options, as the sensitivity of CEO wealth to changes in firm value, differed from the binary nature of other studies, where a 1/0 variable was used to indicate the presence or absence of stock option plans (e.g., Smith and Watts, 1992; Gaver and Gaver, 1993), or the mix of pay between equity-based plans used by Mehran (1995).

Core and Guay (1999) considered whether firms set optimal levels of CEO equity incentives, and use new grants of equity incentives to correct deviations from these optimal incentive levels. In doing so, the authors took into account the CEO's portfolio of stock and option holdings in determining equity incentive payments. They examined US CEO option and equity portfolios from 1992 through 1996 to assess, initially, the determinants of equity incentives. Core and Guay (1999) found that the CEOs' portfolios of equity incentives are positively related to firm size, growth opportunities and CEO tenure. Contrary to Yermack's (1995) results, incentive-based compensation did not appear to be used when firms had a cash liquidity problem.

In the second stage of the study, Core and Guay (1999) used the residual from their incentive levels model as a proxy for the deviation between the CEO's existing level of incentives and the CEO's optimal incentive level. Consistent with their hypothesis, the authors found that new equity incentives to CEOs are negatively relating to this residual, indicating equity grants are used to ensure optimal contracting by bringing CEO equity incentive levels to that optimally suggested by firm characteristics. Core and Guay (1999) justified their differing results from Yermack's (1995) research in terms of their research method. Rather than just concentrating on new equity grants, they considered the CEO's portfolio of equity holdings in addition to new grants of equity incentives.

Meulbroek (2001) questioned whether it was appropriate to weight compensation plans too heavily towards incentive-alignment in some situations. She argued that to properly align managerial incentives with those of shareholders using equity-based compensation, managers need to be exposed to firm-specific risks. However, concentrating the manager's risk too heavily in the firm prevents optimal portfolio diversification. Managers are also exposed to risk through tying their human capital to the firm. Meulbroek (2001) argued that undiversified managers will value stock or option-based compensation at less than its market value. The author found that managers at average NYSE firms, who have their entire wealth invested in the firm, value their options at only 70 percent of their market value. The scenario is even more pronounced in rapidly growing, entrepreneurially-based firms,

such as internet-based firms, where undiversified managers place a value on their options at, on average, only 53 percent of their market value. The author reported results of an earlier study (Meulbroek, 2000), which documented the impact of differing levels of risk on managerial behaviour. Meulbroek (2000) found that managers of internet-based firms were more likely to sell their holdings than managers of traditional firms. Managers frequently exercised their options early, indicating a short-term approach, rather than the long-term focus upon which the options are generally issued.

3.2.2.2 Firm Characteristics and Governance Mechanisms: Australian Evidence

Fleming and Stellios (2002) utilised Core, Holthausen and Larcker's (1999) methodology to assess the relationship between firm financial performance, various measures of governance structure, and CEO pay in Australian companies. The authors examined the hypothesised determinants of CEO remuneration of a randomly selected sample of 86 top 500 Australian listed companies for 1999. Consistent with Core, Holthausen and Larcker (1999), Fleming and Stellios (2002) used a two stage process to estimate, initially, 'excess remuneration'. The authors hypothesised that where corporate governance measures do not operate efficiently, CEOs are able to influence the remuneration process to extract remuneration in excess of that deemed optimal. Excess remuneration was calculated by using ordinary least squares (OLS) regression methodology to estimate the relationship between total CEO remuneration and variables that proxy for demand both for high quality

labour and human capital: firm size, growth, accounting and share performance, company risk, CEO age, and CEO tenure. Variables to control for industry effects were also included. This model explained approximately 50 percent of the variation of CEO pay. Industry, firm size and the riskiness of the firm were found to be significantly related to the dependent variable. CEOs of manufacturing firms receive, on average, higher remuneration than those in other sectors, while finance CEOs receive lower pay compared to their manufacturing colleagues. Measures of firm financial performance were not identified as determinants of executive remuneration.

The relationship between excess remuneration and certain board and ownership characteristics was then assessed. The estimated coefficients of the second model regressed the residual from Model 1 against board and ownership variables: total number of directors on the board, the proportion of non-executive directors, the proportion of non-executive directors classified as busy, whether the remuneration committee is independent of the CEO, and the proportion of firm shares held by the CEO. This stage of the analysis suggested that managers were less able to extract excess remuneration when the board has a higher proportion of non-executive directors, and when CEO interests are aligned through share ownership (Fleming and Stellios, 2002, p.139). The study was limited to an assessment of determinants of remuneration in total, and did not examine how labour-demand factors, or board and ownership characteristics related to each component of remuneration.

Chalmers, Koh and Stapledon (2006) used more contemporary data when they also followed Core, Holthausen and Larcker's (1999) method to investigate factors related to CEO compensation in the Australian context. Consistent with Core, Holthausen and Larcker (1999) and Fleming and Stellios (2002), the authors sought to determine whether the level of remuneration in Australian firms is optimal, reflecting a firm's demand for high quality CEOs (referred to as 'labour demand'), or whether the CEO's level of compensation is excessive, reflecting the CEOs ability to extract additional benefits in excess of optimal compensation (known as 'rent extraction').

Where Fleming and Stellios (2002) examined a one year cross-section in 1999 only, Chalmers, Koh and Stapledon (2006) assessed the determinants (economic, governance and ownership) of CEO compensation over the period 1999 to 2002. The authors also improved on the study by Fleming and Stellios (2002) by differentially determining the various components of CEO compensation: salary, bonus, and share options and shares.

Results indicated economic attributes significantly influence CEO compensation. Firm size was the only significant economic determinant of CEO remuneration for all components of pay, suggesting larger firms demand a higher quality CEO and pay for this quality. Consistent with expectations and prior research (Smith and Watts, 1992; Gaver and Gaver, 1995), firms' growth opportunities are positively associated with options and

share-based compensation components. This reflects greater use of incentive-based pay to mitigate the difficulties of monitoring managers' use of private information related to investment decisions (Chalmers, Koh and Stapledon, 2006). Contrary to Fleming and Stellios (2002), a link between pay and accounting performance was observed for all compensation components, with the exception of shares, in the multi-period setting. This link was not observed in prior Australian studies (e.g., Defina, Harris and Ramsay, 1994; Izan, Sidhu and Taylor, 1998). Results corroborate McKnight and Tomkins' (1999) advice to disaggregate pay components in order to assess their differential determinants.

After controlling for economic attributes, governance and ownership characteristics were found to play a role in determining CEO compensation, again, with a differential influence on CEO pay components. While the determination of fixed salary and share-based compensation reflected a firm's demand for a high quality CEO, the CEO's ability to extract rent through bonuses and options was evident for smaller firms or firms with above average performance.

Matolcsy and Wright (2006b) referred to evidence that recognises the difference between the Australian and US settings with regards to the prevalence of equity-based compensation (Matolcsy and Wright, 2006a). They sought to assess the relation between firm characteristics and levels of CEO compensation across two different types of Australian remuneration

contracts: contracts consisting of cash compensation only, and contracts that contain both cash and equity-based pay.

Matolcsy and Wright (2006b) expected that the level of CEO remuneration, and cross-sectional variation in compensation, is based on the underlying economic characteristics of the firm that determine the relative demand for quality in the CEO. These economic characteristics include: firm size, the extent of growth opportunities, complexity of operations, and firm performance. If there is no relationship between the level of CEO remuneration and underlying economic characteristics, Matolcsy and Wright (2006b) argued that compensation contracting might not be efficient on average, and could reflect rent extraction by management (Bebchuk, Fried and Walker, 2002; Chalmers, Koh and Stapledon, 2006).

The authors utilised a sample drawn from Australian firms in the top 500 for the years 1999, 2000 and 2001. The final sample comprised 227 firms for 1999, 224 firms for 2000 and 245 firms for 2001. The study only assessed determinants of total compensation for sample firms, rather than examining determinants of differential components of compensation, which exist for the equity group. The level of CEO compensation in the total sample is significantly positively related to firm size, complexity and current market performance. These results are consistent with prior research by Chalmers, Koh and Stapledon (2006).

When investigating the association across type of remuneration contract, evidence suggested that with the exception of firm size, the significance of the other firm characteristics differs across compensation groups. For the equity group, only firm size and current market performance exhibit a significant association with compensation level. For the cash group, complexity and both current accounting and market measures of performance are positively related to the level of pay. Matolcsy and Wright (2006b) concluded that rather than being randomly decided, CEO compensation contracts in Australian firms are related to various underlying economic characteristics of the firm. This is evidenced by the fact that determinants of the level of remuneration differ between groups.

3.2.2.3 Summary of Findings: Firm Characteristics and Governance Mechanisms

A range of firm, governance and ownership characteristics have been found to relate to the level, and/or structure of CEO compensation in both the US and UK. Research has documented, overwhelmingly, that compensation level increases with the size and complexity of the firm (e.g., Agarwal, 1981; Sanders and Carpenter, 1998; McKnight and Tomkins, 1999; Laing and Weir, 1999; Core, Holthausen and Larcker, 1999), recognising the increased skill and quality of labour required to lead a large, complex organisation. There is some evidence that human capital characteristics determine the level of compensation: as CEO tenure increases, the CEO's ability to influence remuneration also increases, and the CEO holds greater levels of expertise.

This results in higher pay levels (Hill and Phan, 1991), and greater reliance on cash-based, as opposed to incentive-based pay (McKnight and Tomkins, 2004).

Whilst some studies concluded that the board is vigilant in ensuring a link between CEO pay levels and firm performance (Buchholtz, Young and Powell, 1998; Core, Holthausen and Larcker, 1999), board monitoring ability was not consistently observed to influence executive pay levels (see for example Conyon and Peck, 1998). Remuneration structure was observed to relate to growth opportunities, with high growth option firms being more likely to rely on incentive-based pay (e.g., Smith and Watts, 1992; Gaver and Gaver, 1995). There is some evidence that the extent to which CEOs already hold shares in the firm is considered by boards when determining compensation structure (Mehran, 1995). However, again, this result has not been consistently found (see for example Yermack, 1995).

Differences in results are likely to relate to variation in how compensation is measured (including or excluding incentive compensation), and whether incentive pay is calculated by the researcher from data available (e.g., Mehran, 1995; Core, Holthausen and Larcker, 1999) or identified as a dichotomous variable indicating the presence or absence of incentive pay (Yermack, 1995).

Australian research has been relatively sparse, until now, with the only evidence of determinants reflecting pay practices over a limited period between 1999 and 2002 (Fleming and Stellios, 2002; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright, 2006b). As indicated previously, these studies were conducted prior to recent regulatory amendments impacting disclosure and recognition of executive compensation.

Consistent with US and UK research, firm size, reflecting demand for a high quality CEO, was observed to relate to the level of CEO pay (Coulton and Taylor, 2002b; Fleming and Stellios, 2002; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright, 2006b). Similarly, Matolcsy and Wright (2006b) found firm complexity also impacts on pay for CEOs receiving cash remuneration. In contrast to overseas research, there is limited evidence that firms with growth opportunities utilise equity-based incentive pay, with only Chalmers, Koh and Stapledon (2006) finding any relation.

The effectiveness of board and governance mechanisms was observed to limit CEO pay in a number of Australian studies. Outside directors (Fleming and Stellios, 2002), and grey directors (Chalmers, Koh and Stapledon, 2006) have been found to relate to the level of CEO pay. Consistent with overseas findings, a negative association between CEO share ownership and the level of CEO compensation has also been established (Fleming and Stellios, 2002; Chalmers, Koh and Stapledon, 2006).

In some instances, Australian research results differ from overseas work. While US studies found that the existence of external blockholders serves to limit compensation (Mehran, 1995; Core, Holthausen and Larcker, 1999), Australian research by Chalmers, Koh and Stapledon (2006) found no such association.

A number of factors hypothesised to relate to the level and/or structure of CEO pay in US and UK research have not yet been investigated in the Australian context. This is likely due to reduced information availability when prior research was conducted. The proportion of external directors appointed by the CEO (Conyon and Peck, 1998; Core, Holthausen and Larcker, 1999), and additional directorships held by executives (Laing and Weir, 1999) have been found to relate to the level of CEO pay overseas. The current study will assess whether these factors determine CEO pay in Australia.

3.3 *Determinants of Non-CEO Compensation*

Limited research has investigated the determinants of compensation for non-CEO executives, in addition to CEOs. Ryan and Wiggins (2000) analysed the determinants of compensation structure of the top five executives from 160 US corporations for the fiscal year ended 1988. The authors established that factors observed in prior studies to explain the use of equity incentives in CEO compensation (growth opportunities, firm size) also explained the use of equity incentives for non-CEO executives, but with a declining explanatory

power. The explanatory power was not high (R-squared ranging from 12 percent for CEOs down to 4 percent for executives at level five). Results suggested that internal monitoring of lower-level executives by the CEO does not fully replace the need for incentive alignment (Ryan and Wiggins, 2000). Further, it confirms that both incentive mechanisms and monitoring are important components of effective corporate governance.

Canyon and Sadler (2001) also included non-CEO executives in their examination of the pay-performance link. They determined pay-for-performance sensitivity of 532 executives across 100 large UK companies for 1997. The authors found the median pay-for-performance sensitivity was not constant within firms, but increased as executives move up the organisational levels of the firm. Canyon and Sadler (2001) concluded this to be related to the limited opportunities for further advancement, the higher executives move up the organisational hierarchy. Consequently, greater financial incentives are required. Consistent with prior research, a positive relationship between firm performance and ownership of share-based compensation was observed.

No Australian study has examined the relative determinants of CEO and non-CEO compensation. Consequently, the current study seeks to address this limitation.

3.4 Conclusion

Australian compensation contracts are more likely to resemble those used in UK firms than US firms. The use of stock options as a form of CEO compensation is much higher in the US than in either the UK or Australia. Studies indicate, however, that stock-based compensation is increasing in importance as a component of remuneration packages in Australia (Coulton and Taylor, 2002b; Matolcsy and Wright, 2006a). Australian firm use of performance hurdles appears to be more consistent with UK than US practices, although still not to the same extent as that observed by Conyon *et al.* (2000) in UK contracts.

Results of prior research, both within Australia and overseas, show a positive association between pay and firm performance, however, this relationship is more evident when share-based compensation is examined. Overall, results appear to indicate that both cash and share-based compensation is more likely related to market-based measures of performance than accounting measures (McKnight and Tomkins, 1999; Coulton and Taylor, 2002b).

A range of firm, governance and ownership characteristics have been found to relate to the level and/or structure of CEO compensation within Australia and internationally. Results indicate that demand for a high quality CEO, resulting from the size and complexity of the firm's operations, leads to higher levels of remuneration (Core, Holthausen and Larcker, 1999; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright, 2006b). In addition, the

proportion of both outside directors and grey directors on the board has been found to relate to the board's ability to effectively control the level of CEO remuneration (Fleming and Stellios, 2002; Chalmers, Koh and Stapledon, 2006), however, this was not the case internationally (Conyon and Peck, 1998). The length of CEO tenure also relates to the level of remuneration, and a more heavy reliance on cash, as opposed to share-based pay (Hill and Phan, 1991; McKnight and Tomkins, 2004). The proportion of shares owned by CEOs has also been considered when setting incentive-based pay (Mehran, 1995; Chalmers, Koh and Stapledon, 2006).

Limited US research examining the structure and determinants of compensation across the senior management team confirms that while the structure of pay is consistent across the team, the level of CEO pay is significantly greater than lower level managers (Ryan and Wiggins, 2000). Determinants of CEO pay (firm size, growth opportunities, and financial performance) also relate to both the level and structure of non-CEO executives in the management team, although the model has progressively decreasing levels of explanatory power.

Since prior research has been carried out, as indicated in Chapter 2, the regime governing disclosure and recognition of remuneration has changed in Australia. It is likely that the expanded requirements for disclosure of performance hurdles, and the ability of shareholders to vote on the Remuneration Report, will have lead to a closer alignment between firm

financial performance and executive remuneration. The current study investigates how the current structure of compensation, the link between executive pay contracts and firm performance, and effectiveness of corporate governance structures differ from those observed by prior research. Results of this research will inform the public policy debate and provide some evidence of the success, or otherwise, of regulatory changes in more closely aligning executive remuneration with shareholder interests.

A number of factors, including the proportion of external directors appointed to the board subsequent to the CEO taking office and additional directorships held by the CEO, have been found by overseas research to relate to the level of CEO remuneration. These factors have not, to date, been examined by Australian research. The current study addresses this limitation. The influence that CEOs, who are also founders, have upon the strategic decisions of the company is another factor likely to explain the level of executive compensation across the management team. Although the influence of a CEO in this position has been alluded to in prior research (e.g., Anderson and Bizjak, 2003), it has not been examined as a potential determinant. The current study seeks to address this shortcoming.

The factors examined as potential determinants of remuneration, together with the theoretical framework used in developing testable hypotheses, are discussed in the next chapter.

Chapter 4

THEORY DEVELOPMENT AND HYPOTHESES

A review of the body of evidence relating to the structure and determinants of executive remuneration was presented in Chapter 3. Empirical investigation has, to date, engaged agency theory as the predominant perspective in the development of testable hypotheses. Recently, the theory of managerial power, which emerges from the sociology and political science literatures, has been proposed as a theory which can assist in more fully considering behavioural aspects of managerial actions, in order to present a more comprehensive model of the determinants of executive compensation (Grabke-Rundell and Gomez-Mejia, 2002). Both agency theory and the theory of managerial power inform the work undertaken in the current study.

The chapter commences with a discussion of the underlying tenets of both theories. Both agency and managerial power theories are then reconciled in terms of how they present similar and differing propositions regarding the determinants of executive compensation. Factors expected to determine the

level, and in some cases the structure, of executive remuneration are then examined, with testable hypotheses being presented.

4.1 *Theory Development*

4.1.1 Agency Theory

Corporate governance research and an examination of the agency relationship in particular, can be traced back to Coase (1937) who characterised firms as a 'nexus of contracts' amongst suppliers and consumers of factors of production (Alchian and Demsetz, 1972; Jensen and Meckling, 1976). It is assumed that contracting is costly¹⁶ (Ball, 1989) and firms exist to the extent that these contracting costs are minimised (Coase, 1937). Contracts into which the firm enters can take the form of agency relationships whereby a person, or group of persons, as principal, employs the services of another, as agent, to perform some activity on their behalf (Jensen and Meckling, 1976; Whittred and Zimmer, 1992).

An agency problem becomes evident because it is assumed that both parties are rational, utility maximisers and the agent will not always act in the best interests of the principal (Jensen and Meckling, 1976). The problem of inducing an agent to behave as if he or she were maximising the principal's welfare gives rise to what Jensen and Meckling (1976) referred to as agency costs. Jensen and Meckling (1976) define these agency costs as:

¹⁶ Costs of contracting include the cost of searching for a party interested in contracting, negotiating a contract, bonding one's own performance and monitoring the other party's performance (Ball, 1989, p.7).

- Monitoring costs
- Bonding cost
- Residual loss

Monitoring costs are incurred by the principal to measure, observe and control the agent's behaviour. Bonding costs are expenditures incurred by the agent to guarantee they will act in the interests of the principal. The principal can also rely on price protection against agents taking actions divergent from the interests of the principal. Despite these controls, it is too costly to guarantee an agent will make decisions optimal to the principal at all times and in all circumstances. This additional divergence is referred to as the residual loss (Jensen and Meckling, 1976). The principal is prepared to accept these agency costs up to the point where the benefit gained from the agency relationship still exceeds the costs incurred.

Agency theory argues that in the modern corporate environment, where share ownership is highly diversified, shareholders appoint managers as agents to act on their behalf in operating the corporation in such a way that maximises shareholder value. In perhaps the first work addressing the separation of ownership and control of the modern corporation, Berle and Means (1932) argued that whilst shareholders had legal control of large US firms, it was management that exercised effective control. However, shareholders entrust the management of their funds to self-interested

managers in the belief that these managers have superior skill or information in managing the firm and making investment decisions (Murphy, 1999).

Differences in owner and manager incentives regarding firm policies and objectives reflect a number of specific problems including: information asymmetry, differences in time horizons, differences in the extent of risk aversion (Smith and Watts, 1982; Lewellen, Loderer and Martin, 1987), and dispersion of equity owners (Grabke-Rundell and Gomez-Mejia, 2002). The problem of information asymmetry refers to the differences in the amount and quality of information managers hold, when compared to owners, about firm performance and activities. As such, managers are able to act opportunistically and make decisions that are potentially to the detriment of shareholders. Because of their superior information and shareholders' lack of full observation, managers may take actions that will maximise their rewards. However, their actions could harm firm performance and result in losses to the principals in the long-run (Grabke-Rundell and Gomez-Mejia, 2002).

Managers and owners will have a different time horizon with respect to the firm. Shareholders, arguably, are interested in long-term performance and changes in shareholder wealth. Managers, on the other hand, are interested in firm performance only for the period they expect to stay with the firm, or for the period of their current contract. This is expected to become more of an issue as the manager ages. The horizon problem leads to managers attempting to maximise short-term firm values at the expense of long-term

gains. Managers prefer less risk than owners, as owners have the ability to diversify their risk across a large portfolio of shares. Managers, however, have significant amounts of undiversified human capital invested in the corporation. Finally, the dispersion of equity-holders means that shareholders are not likely to join together to enforce the agency contract (Grabke-Rundell and Gomez-Mejia, 2002).

While the *level of output* from managerial effort is observable by the owners and managers, the *level of effort* is observable only by the manager. Although the manager's effort-level is not observable by the owners as principal, owners attempt to mitigate the differing incentives of managers and owners by designing a remuneration contract that provides the right incentive for the manager to exert optimal effort (Barnea, Haugen, and Senbet, 1985).

Agency theorists (e.g., Jensen and Meckling, 1976) argue that salary by itself does not promote the alignment of managers' interests with those of owners. Consequently, managerial remuneration contracts commonly include a number of measures to attempt to align managers' interests with owners. As noted in Chapter 3, bonuses that reward managers in line with various measures of firm financial performance or changes in share price are commonly included (Murphy, 1999). Granting of share ownership or share options is another way compensation contracts attempt to align manager and owner incentives. The use of different performance measures is likely to be

determined by the underlying economic characteristics of the firm (Bushman and Smith, 2001).

Linking a manager's compensation too closely to firm performance may lead to risk-avoiding behaviour on the part of the manager (Beatty and Zajac, 1994). Fama (1991) notes contingent or incentive-based compensation might seem to have desirable incentive and motivational properties, but it could also cause a manager to bear risk that could more efficiently be borne by diversified shareholders. The underlying assumption is that managers, unlike owners, have already invested most of their non-diversifiable and non-tradable human capital in the firm and that the agent is relatively risk averse, while the principal remains risk neutral. This will lead to the likelihood that it is too costly and too difficult for the principal to have the agent bear this risk (Fama, 1991). Because the risk cannot be diversified, companies are likely to be under pressure to pay their executives disproportionately more in total compensation so they are compensated for bearing this non-diversifiable risk (Scholes, 1991; Beatty and Zajac, 1994). Meulbroek (2001) supports this view where she argues that undiversified managers value shares or options at less than their market price. She found that an undiversified manager in a NYSE firm values option-based compensation at approximately 70 percent of the cost to the firm, while an undiversified manager at a riskier, internet-based firm values option-based compensation at approximately 53 percent of the cost of the options to the firm.

The agency literature notes that while an efficient contract is the preferred solution to the agency problem that exists between owners and managers (Beatty and Zajac, 1994), in the absence of perfect alignment of incentives, monitoring by the board is argued to improve this alignment (Fama, 1980; Beatty and Zajac, 1994). The optimal level of monitoring will depend upon the magnitude of the gap in incentive alignment between principals and agents. The magnitude of this incentive problem has traditionally been defined, in part, by the level of a top management team's equity interest in the firm (Jensen and Meckling, 1976). A higher level of monitoring is required when management do not accept an adequate level of compensation risk tied to firm performance, or when there is a minor equity position in the firm (Beatty and Zajac, 1994). Aspects of board structure argued to contribute to the success of monitoring include: the proportion of outside directors on the board (Fama, 1980), the presence of blockholders (Beatty and Zajac, 1994), and CEO duality (Beatty and Zajac, 1994).

4.1.2 Managerial Power

The theory of managerial power derives from the sociology and political science literature. Finkelstein (1992, p.506), consistent with Hickson *et al.* (1971) and Pfeffer (1981) defines power as "the capacity of individual actors to exert their will". Although power may be exercised in a number of settings (Pfeffer, 1981; Finkelstein, 1992), power is argued to be a relative concept that can only be understood in a particular context (Finkelstein, 1992). The

theory can be applied to the setting of managerial compensation contracts (Lambert, Larcker and Weiglet, 1993; Grabke-Rundell and Gomez-Mejia, 2002). Lambert, Larcker and Weiglet (1993, p.441) assume that managers prefer higher levels of pay to lower levels of pay, and define power as “the ability of managers to influence or exert their will or desires on the remuneration decisions made by the board of directors or perhaps the management compensation committee of the board of directors”.

The theory of managerial power has grown from French and Raven’s (1959) initial development of a typology of power. In their original work, French and Raven (1959) identified five power types: reward, coercive, legitimate, expert, and referent.¹⁷ Raven (1974) subsequently added information power to their list. Since then, many researchers have attempted to refine the number and definition of power types (see for example Mintzberg, 1983; Kalbers and Fogarty, 1993). Although complete agreement does not exist (Kalbers and Fogarty, 1993), there is effective consensus that power represents: control over resources (reward, coercive), control over information and its content (information), personal attributes (expert, referent), and formal mandates (legitimate) (Kalbers and Fogarty, 1993).

Although understanding of the power phenomenon has advanced, these frameworks were not specifically developed with top managers in mind (Finkelstein, 1992), reducing their usefulness in the current context. In

¹⁷ These power typologies are further explained in Table 4.1.

addition, the earlier typologies of power were developed with limited concern for measurement (Finkelstein, 1992; Kalbers and Fogarty, 1993).

As a result, Finkelstein (1992) assimilated the power literature and produced possibly the most useful exposition of power in the context of top managers to date (Grabke-Rundell and Gomez-Mejia, 2002), with the purpose of developing objective indicators of executive power that are able to be operationalised in multiple settings (Grabke-Rundell and Gomez-Mejia, 2002).

Recognising the multidimensional nature of power, Finkelstein (1992, p.508) outlined four dimensions that can accrue to those executives who can manage these uncertainties: structural power, ownership power, expert power, and prestige power. A manager's structural position and share ownership are factors that are argued to enable an executive to deal with uncertainties stemming from the firm's internal environment. Expertise and prestige are posited to reduce uncertainty as a consequence of the organisation's external environment (Grabke-Rundell and Gomez-Mejia, 2002). Internal sources of uncertainty stem from other top managers and boards of directors, and major external sources of uncertainty arise from the firm's institutional environment: customers, suppliers, competitors, and government (Finkelstein, 1992; Conyon and Peck, 1998).

Structural power is based upon formal organisational structure and hierarchical authority (Finkelstein, 1992). Position in the corporate hierarchy can result in the right to exert influence (Finkelstein, 1992) or control over information (Lambert, Larcker and Weiglet, 1993). CEOs are likely to have higher structural power over other members of dominant coalitions because of their formal position within the organisation (Finkelstein, 1992). CEOs, or other top managers, can accumulate power by using their position to influence the selection of the board of directors (Lambert, Larcker and Weiglet, 1993).

Finkelstein (1992) views ownership power as the ability to influence board decisions through the managers' ownership of firm shares. Tosi and Gomez-Mejia (1989) support the view that top managers who hold greater equity positions in their firm will be more powerful than managers who have a smaller equity stake. As legal owners of the firm, shareholders are given the rights to vote and affect strategic decisions, an influence that increases with the proportion of shares owned (Grabke-Rundell and Gomez-Mejia, 2002).

The ability to deal with environmental contingencies such as customers, suppliers, competitors and government is an important source of power (Hambrick, 1981; Finkelstein, 1992). Managers who have higher levels of expert power, derived from their expertise, are likely to earn higher levels of compensation, both due to the demands of their job, and the fact that the

supply of managers with high levels of expertise may be relatively scarce in the managerial labour market (Agarwal, 1981).

Finkelstein's (1992) fourth and final dimension of managerial power is prestige power, or power derived from the status or reputation of the manager. Power is gained from external contacts, which may provide valuable information to the organisation (Finkelstein, 1992). Executives who are often referred to as having prestige are those who hold prominent positions within society. Prestige portrays to others that the executive has powerful connections and can obtain information from important external sources (Grabke-Rundell and Gomez-Mejia, 2002).

A synthesis of the power literature, indicating how Finkelstein's (1992) typology assimilates with the power types identified in earlier literature, is presented in Table 4.1.

Table 4.1: A Synthesis of Power Types

Finkelstein's Power Typologies	Description
Structural Power	<p>Based on position and authority within formal organisational structure, control over information and right to exert influence (Finkelstein, 1992)</p> <p>Integrates <i>Legitimate Power</i> (the ability to act based upon a mandate from a widely accepted authoritative source); and <i>Information Power</i> (highlights the importance of organisational position and access to vital communication flows; it is not identical to expert power) (French and Raven, 1959; Raven, 1974; Mintzberg, 1983; Kalbers and Fogarty, 1993)</p>
Ownership Power	<p>The extent of ownership, leading to the ability to influence board decisions. As legal owners, shareholders are given rights to influence strategic decisions and vote (Finkelstein, 1992; Grabke-Rundell and Gomez-Mejia, 2002)</p> <p>Does not correlate to any power types reflected in prior typologies</p>
Expert Power	<p>Ability to deal with environmental contingencies such as customers, competitors and government. Stems from length of experience, knowledge, and quality (Hambrick, 1981; Finkelstein, 1992)</p> <p>Aligns with <i>Expert Power</i> (superior skills create power in circumstances of uncertainty) (French and Raven, 1959); Mintzberg (1983) describes this as 'technical skills'</p>
Prestige Power	<p>Power derived from status or reputation, and gained from external contacts, which provide valuable information and resources to the organisation (Finkelstein, 1992)</p> <p>Integrates <i>Referent Power</i> (personal qualities, leading to deferential behaviour of others, leadership skills) (French and Raven, 1959) and <i>Sanctionary Power</i> (referred to as 'control over resources') (Mintzberg, 1983)</p>

Finkelstein (1992) focused his work on power within what he refers to as the 'dominant coalition' of the firm (p.507). He argued that power relations in the top management team arise because of the interdependent nature of managerial work. As noted previously, power accrues from a manager's ability to cope with internal and external sources of uncertainty (Grabke-Rundell and Gomez-Mejia, 2002; Finkelstein, 1992). Those managers who are best able to cope with uncertainty are likely to be in the best position to exert their will or preferences to obtain higher compensation. Managers with power are able to influence the level and structure of the pay they receive, and managers with more power are expected to be able to do so to a greater extent (Bebchuk, Fried and Walker, 2002).

4.1.3 Reconciling Agency and Managerial Power Theories

For the most part, the theories of agency and managerial power align in their expectations with regards to determinants of executive compensation, and the ability of managers to influence the compensation-setting process. Agency theory implicitly acknowledges the existence of power in the relationship between shareholders and managers (Grabke-Rundell and Gomez-Mejia, 2002). The agency contract is a concept that, by definition, pertains to the power relationship between executives and shareholders (Tosi *et al.*, 1999; Grabke-Rundell and Gomez-Mejia, 2002). Under agency theory, compensation contracts are designed by the board for the purpose of minimising the level of divergence between owners and managers, that is

alleviating the agency problem. Under both agency theory and the managerial power approach it is recognised that executives have the potential to influence their compensation contracts to extract rents¹⁸ (Bebchuk, Fried and Walker, 2002).

Both agency and managerial power theories note that compensation arrangements approved by boards often deviate from the optimal contract because directors could be subject to influence by management, sympathetic to management, or simply ineffectual in monitoring compensation arrangements (Bebchuk, Fried and Walker, 2002). Agency theorists acknowledge that managers, as agents, can nullify the influence of shareholders through information asymmetry, shareholder dispersion and entrenchment (Grabke-Rundell and Gomez-Mejia, 2002).

The theories differ in one respect. Power, from the agency perspective, is defined as a cost to shareholders of managers pursuing their own agendas at the expense of shareholder welfare, or their ability to overcome the constraints of monitoring in order to increase self-interested behaviour (Grabke-Rundell and Gomez-Mejia, 2002). From the managerial power perspective, however, power is a more comprehensive, and potentially positive quality, which includes the ability to secure critical resources for the firm, cope with uncertainty, or network with the business elite (Hambrick,

¹⁸ Rent extraction refers to executives receiving pay in excess of the level that would be optimal for shareholders (Bebchuk, Fried and Walker, 2002).

1981; Finkelstein, 1992; Grabke-Rundell and Gomez-Mejia, 2002). Overall, however, both agency and managerial power theories propose the same relationship between compensation and governance and ownership factors.

The next section proceeds to present hypotheses, developed using both theoretical frameworks, where appropriate.

4.2 Hypotheses Development

4.2.1 Firm Performance as a Determinant of Compensation

The separation of ownership and control in contemporary firms results in agency costs including: management deriving benefits from the resources they control, information asymmetry, and difference in time horizons between managers and shareholders (Jensen and Meckling, 1976; Shleifer and Vishny, 1997). The level and structure of remuneration contracts are one mechanism that can be utilised to minimise agency costs and maximise firm value (Jensen and Meckling, 1976). As noted previously, salary by itself does not promote the alignment of managers' interests with those of owners (e.g., Jensen and Meckling, 1976). Consequently, managerial remuneration contracts that grant managers contingent, long-term incentives are likely to align managers' interests with owners (Shleifer and Vishny, 1997). Contracts where bonuses are tied to measures of firm performance are more likely to induce managers to undertake activities that will maximise firm performance, and consequently firm value for shareholders.

Prior research, both within Australia and internationally, has observed a link between executive remuneration and firm performance (e.g., Jensen and Murphy, 1990; McKnight and Tomkins, 1999; Core, Holthausen and Larcker, 1999; Coulton and Taylor, 2002b). It is hypothesised:

- H1** The level of executive remuneration is positively associated with firm financial performance.

4.2.2 Firm Characteristics as Determinants of Compensation

Firm Size

The size of the organisation is likely to affect the expertise required from the top management team. Large firms are expected to have more hierarchical levels and be more decentralised, making the actions of mid-level managers less observable (Gaver and Gaver, 1995). Consequently, board members must place more reliance on the management teams' dissemination of information to the board. Core, Holthausen and Larcker (1999) note larger firms are more likely to pay higher levels of compensation as a result of their demand for higher-quality managerial talent.

The theory of managerial power proposes that the larger the firm, the greater is the expert power required of the top management team. Pay has generally been found to relate to firm size in the literature (Murphy, 1985; Rosen, 1992;

Fleming and Stellios, 2002; Coulton and Taylor, 2002b; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright, 2006b). It is predicted that:

H2 The level of executive remuneration is positively associated with firm size.

Complexity of Operations

Similarly, the complexity of an organisation can influence the required expertise of the top management team. More complex organisations require the top management team to hold expertise across a variety of functional areas and demands higher-quality management as a result (Core, Holthausen and Larcker, 1999; Grabke-Rundell and Gomez-Mejia, 2002). Compensation is expected to be higher for management in more complex organisations in order to attract and retain CEOs with greater skills and expertise. Prior research has found a positive link between the complexity of an organisation and the level of CEO compensation (Agarwal, 1981; Sanders and Carpenter, 1998; Matolcsy and Wright, 2006b). It is hypothesised:

H3 The level of executive remuneration is positively associated with the complexity of a firm's operations.

Growth Opportunities

Firms with valuable growth opportunities are likely to have a high degree of information asymmetry between managers and shareholders (Gaver and Gaver, 1995). This information asymmetry arises because managers have private information about the value of future projects (Bizjak, Brickley and

Coles, 1993; Gaver and Gaver, 1995) and because it is more difficult for owners to observe managerial effort in growth firms (Smith and Watts, 1992). As a result, growth firms reflect greater potential for managerial opportunism and higher agency costs. Executive compensation in growth firms is, therefore, expected to differ from that of non-growth firms (Gaver and Gaver, 1995).

Smith and Watts (1992) argue that, relative to non-growth firms, growth firms pay higher levels of remuneration to top executives. Higher levels of compensation can be expected because selection of investment projects demands a higher equilibrium wage than supervising existing assets-in-place (Gaver and Gaver, 1995). In addition, growth firms are likely to be riskier than non-growth firms (Smith and Watts, 1992; Gaver and Gaver, 1995).

H4a The level of executive remuneration is positively associated with the extent of growth opportunities.

In order to reduce the agency costs associated with information asymmetry, growth firms are also likely to emphasise incentive compensation over fixed salary (Smith and Watts, 1992; Gaver and Gaver, 1995). Without inside information and specialised knowledge that managers possess, shareholders are unable to assess the various investment opportunities available to the firm. In contrast however, the maintenance and supervision requirements of existing assets in non-growth firms are more observable (Gaver and Gaver, 1995). As managerial actions are less observable in growth firms,

shareholders are expected to rely on incentive compensation to align the interests of managers with those of shareholders (Gaver and Gaver, 1995). It is therefore predicted that:

H4b The provision of incentive remuneration is positively associated with the extent of growth opportunities.

4.2.3 Monitoring and Governance Determinants of Compensation

Outside Directors

Outside directors are viewed as more independent of the CEO than internal directors, and are consequently better able to represent the interests of shareholders. Where external board members are charged with monitoring managers' actions, managers will not have to bear as much risk for the outcome of decisions as would otherwise be the case (Holmstrom, 1979). Consequently, the optimal compensation contract will be more efficient in terms of risk-sharing between the manager and the firm than when effective monitoring is not possible. When lower risk is imposed on the manager, therefore, the variability of compensation will be decreased and as a result the expected level of compensation will be lower (Holmstrom, 1979). Consequently, managers of firms whose boards have a higher concentration of external directors are likely to have lower risk imposed on them through their remuneration contracts. Consistent with findings by Fleming and Stellios (2002), this is likely to lead to lower levels of remuneration. It is predicted that:

- H5** The level of executive remuneration is negatively associated with the proportion of outside directors on the board.

Grey Directors

The previous hypothesis addressed the monitoring role of the board of directors from the viewpoint that external directors are independent of management and more likely to effectively act in shareholders' interests to monitor managerial actions. However, individual attributes of external directors are also an important determinant of their ability to be effective monitors, and of the manager's ability to influence board directors. Grey directors, who have links with the firm through provision of services, or through past executive roles within the firm, are not in a position to effectively monitor managers' actions due to their reduced level of independence. As a result, it is expected that managers will have greater influence over remuneration negotiations and decisions made by the remuneration committee, resulting in higher levels of remuneration. Core, Holthausen and Larcker (1999) confirmed that the existence of grey directors allows CEOs to influence outside directors whose level of independence can be questioned.

- H6** The level of executive remuneration is positively associated with the proportion of grey directors on the board.

Busy Directors

Being a director of other firms is likely to be beneficial to an external director in terms of offering a wider range of experience to draw on when evaluating managements' performance and proposed actions. However, too many competing roles could be detrimental to the monitoring capacity of the director. The time and effort involved in fulfilling each directorship is likely to influence the ability to perform the role of director to the extent necessary to perform fully their monitoring role. As such, 'busy directors' are less likely to question managerial proposals and decisions. It is hypothesised:

- H7** The level of executive remuneration is positively associated with the proportion of busy directors on the board.

Length of Board Tenure

The ability to effectively monitor managerial actions is also likely to depend upon the experience-level of outside directors. Newly appointed directors could lack specific firm knowledge, which makes it difficult to evaluate managerial proposals. If increased tenure results in an enhanced ability to evaluate and monitor managerial action, the length of tenure of external board members is expected to have an inverse relationship with levels of executive remuneration. It can be hypothesised:

- H8** The level of executive remuneration is negatively associated with the length of tenure of external board members.

External Blockholders

Significant external blockholders are also likely to fulfil a monitoring role. Hill and Snell (1989) propose that concentration of share ownership is important. If share ownership is concentrated, the board is more likely to take note of expectations of external blockholders with regards to managerial remuneration and performance (Mallette and Fowler, 1989). This is more likely to be the case under recently expanded Australian corporate legislation, where shareholders are permitted to vote on the contents of the Remuneration Report.

Proposing that external blockholders are likely to substitute for the monitoring activities of the board, Mehran (1995) found a significant negative association between the existence of external blockholders and share-based compensation as a percentage of total compensation. Similarly, Lambert, Larcker and Weiglet (1993) found a significant negative association between the existence of blockholders and levels of management remuneration. It can be predicted that:

- H9** The level of executive remuneration is likely to be higher where firms have no significant external blockholders than where firms have significant external blockholders.

CEO Duality

Control over information can be utilised by top managers either to restrict, or to re-interpret, information passed onto the board of directors or

shareholders. Managers who are in a position to restrict the board's access to information are in a position to influence the compensation-setting process (Lambert, Larcker and Weiglet, 1993). While the position of chief executive legitimises power within the organisation, leading to subordinates deferring to the views of the CEO, it can be argued that CEOs who occupy the dual role of CEO and Chair of the Board are even more likely to achieve respect from other board members and those lower in the firm's hierarchical structure (Grabke-Rundell and Gomez-Mejia, 2002). They are often consulted by other directors before board appointments and other decisions are made. The Chair is also able to control the dissemination of information to the board through the agenda for board meetings, and have their agendas approved. Executives in this position have greater structural power than CEOs who are not Chair, and are more likely to achieve their own objectives pertaining to remuneration. Core, Holthausen and Larcker (1999) observed that where the CEO occupied dual roles, CEO compensation was higher. As such it can be hypothesised:

H10 The level of executive remuneration is likely to be higher where CEOs occupy the dual role of Chair of the Board than when they do not.

Outside Directors Appointed after the CEO

Structural power can eventuate through 'control' of the other board members. Herman (1981) and Pfeffer (1972) assert that managers dominate the director-selection process. Because board members are dependent on management, and particularly CEOs for their position on the board, board

members are likely to be loyal to the manager who appoints them, to the possible detriment of shareholders. External directors who have been selected by incumbent managers are likely to be more supportive of the views or wishes of the CEO than those who were already in office prior to the CEO's appointment. Because of their position on the board, CEOs are likely to be in a strong position to recommend internal directors or external directors who would knowingly be in favour of the CEOs preferences (Grabke-Rundell and Gomez-Mejia, 2002). As a result, directors who are selected by the CEO are less likely to question information provided to the board by the CEO. This is likely to lead to the CEO influencing the board decision-making process regarding executive remuneration payments. This hypothesis was confirmed by Core, Holthausen and Larcker (1999). It is therefore predicted that:

H11 The level of executive remuneration is positively associated with the proportion of outside directors appointed to the board after the appointment of the CEO.

CEO Representation on the Remuneration Committee

Members of the remuneration committee of the board of directors are directly responsible for setting the compensation of top management, so are in a position to have a greater influence on managerial remuneration than other directors. When the compensation committee is not composed entirely of external directors, it is likely that the internal member of the remuneration committee is the CEO. Although not being part of discussion regarding the

CEO's own pay, the presence of the CEO on the remuneration committee enables him/her to influence committee decisions of subordinates on the corporate hierarchy. Lambert, Larcker and Weiglet (1993) found that pay differences between hierarchical levels increase towards the top of the corporate ladder. The presence of the CEO on the remuneration committee is likely to enable the CEO to influence or exert pressure on the external board members to increase pay for lower tier managers. To the extent that pay levels within the firm are an increasing function of the position on the corporate hierarchy (Lambert, Larcker and Weiglet, 1993), this would likely result in an increase in the CEO's own remuneration. As such:

H12 The level of executive remuneration is likely to be higher where the CEO sits on the remuneration committee than when the CEO does not sit on the remuneration committee.

CEO Tenure

Expert power increases as the executive's tenure within their role lengthens. The more relationships the executive has been able to establish throughout their employment with the firm, the greater the executive's ability to secure resources and reduce uncertainty stemming from the firm's external environment (Grabke-Rundell and Gomez-Mejia, 2002). Expert power from increased tenure is related in some ways to the agency theorists' argument of information asymmetry. As a result of increased tenure, the executive has numerous experiences with the firm. Board members are likely to become more dependent on the executive for knowledge about the best use of the

organisation's resources (Grabke-Rundell and Gomez-Mejia, 2002). The executive can use the board's dependency by portraying an efficient use of the firm's resources to justify a higher remuneration package.

Increased executive tenure is also likely to lead to increased levels of expertise across the wide range of organisational activities. As such, firms are more likely to support higher levels of remuneration to retain this increased expertise and high quality human capital within the organisation. As such, it can be hypothesised that:

H13 The level of executive remuneration is positively associated with the length of the CEO's tenure.

CEO Representation on External Boards

Expert power also accrues to executives who have made numerous contacts with the firm's external constituents (Finkelstein, 1992). Senior managers who serve on external boards are likely to receive valuable information about business conditions facing the firm that the organisation might otherwise not be privy to. Service to the community through sitting on the board of a non-profit organisation, or on industry boards is also likely to enhance the manager's prestige power (Finkelstein, 1992). It is predicted that:

H14 The level of executive remuneration is likely to be higher where the CEO sits on external Boards than when they do not.

4.2.4 Ownership Determinants of Compensation

As legal owners of the firm, shareholders are given the rights to vote and influence strategic decisions, an influence that increases with the proportion of shares owned (Grabke-Rundell and Gomez-Mejia, 2002). An executive who is also a shareholder has these same rights. Moreover, it could be argued that an executive shareholder is in a greater position of power, and able to influence board decisions and executive performance criteria in relation to remuneration. Additional executive power can be also gained through shares owned by the executive's family members. Share ownership grants privileges to the executive, in addition to reducing uncertainty for shareholders by guaranteeing the executive's interests are aligned with theirs (Sanders and Carpenter, 1998). Thus it is hypothesised:

H15 The level of executive remuneration is positively associated with the proportion of managerial and family ownership of firm shares.

Managers who are founders of the firm, or who have links to the founders of the firm, are also likely to hold more ownership power (Finkelstein, 1992). Through their long-term association and interaction with the board (Finkelstein, 1992) they are able to hold some level of influence or control over the board.

H16 The level of executive remuneration is likely to be higher where the CEO is a founder or relative of founders of the firm than when they are not.

Although alluded to as a factor that potentially explains the level of executive remuneration, this factor has not previously been examined in either Australian or international research.

4.3 Conclusion

Prior research has utilised agency theory to guide the examination of executive compensation and its determinants, both within Australia and internationally. The theory of managerial power, which stems from the sociology and political science literature, has recently been proposed as useful in being able to gain a richer understanding of the behavioural aspects of managerial influence on the compensation-setting process (Grabke-Rundell and Gomez-Mejia, 2002). Both theoretical perspectives were reviewed, and reconciled in the current chapter. They were then utilised in the development of hypotheses relating to expected determinants of executive remuneration in the current Australian reporting environment. Determinants of remuneration are hypothesised to relate to firm financial performance, firm characteristics, monitoring and governance mechanisms, and ownership factors.

The research design, entailing the sample selection method, variable measurement, and statistical analysis to be employed to test these hypotheses, is presented in the following chapter.

Chapter 5

RESEARCH DESIGN

This chapter describes the research method and sample used to test the hypotheses developed in the preceding chapter. The chapter commences with details of the general research method adopted. Sample selection procedures and measurements of variables are then provided in Sections 5.2 and 5.3, respectively, followed by an outline of the statistical tests performed.

5.1 *Research Method*

The design of the study is the 'blueprint' for the collection, measurement and analysis of data. This study adopts a quasi-experimental design: a design that approximates an experimental design but does not include a random assignment to conditions (Cook and Campbell, 1976). The quasi-experimental design is appropriate to the current study as it can be used to assess whether an independent variable is an indicator of what causes the dependent variable to vary (Dane, 1990). The independent variables in the

study represent, or proxy for, constructs (e.g., firm, governance or ownership characteristics) that are not otherwise able to be separately observed.

An archival research method is the most appropriate method to gather the data required to test the hypotheses outlined in Chapter 4. Data available from archival sources provide more objective evidence about a larger sample of companies than that which could be obtained by surveying individual companies and managers. This results in improved generalisability of research results. Data are collected from secondary sources, these being the Aspect Huntley *DatAnalysis* and *FinAnalysis* databases in addition to corporate websites. The Aspect Huntley databases contain information provided to the ASX by all publicly listed Australian companies, and are updated from the ASX database daily. All items of information used to measure variables of interest were collected by hand. Approximately 100 data-points, encompassing information required to measure both dependent and independent variables for each firm, were collected and entered into a computer database. In order to verify the objectivity and systematic nature of the data collection process, a sample of the collected data (approximately ten percent) was assessed against original data sources by an independent third party. No variation in recording was evident.

The data used to test the hypotheses are drawn from the Standard & Poor's ASX300, which represents the top 300 companies listed on the ASX. It reflects approximately 91 percent of the Australian share market, by market

capitalisation. As a result, the study is not limited to large companies, and will therefore be able to draw conclusions as to the structure of pay and its determinants for medium size listed companies as well as larger corporations.

The study takes a cross-sectional approach where remuneration disclosures for the 2005 fiscal year are examined. For the entirety of the sample period companies were required to comply with the changes in disclosure requirements resulting from the recent *CLERP 9* initiative, and accounting standard amendments outlined in Chapter 2.

5.2 Sample Selection

Sample selection commenced with the Standard & Poor's ASX300 as at September 2005.¹⁹ Twenty companies were deleted as share prices were not available, or share prices changed during the period of study due to a share split.²⁰ Share prices are necessary to calculate a number of variables outlined in the next section. The CEO or managing director changed in 60 companies, and consequently these firms were removed from the sample. A change in CEO or managing director is likely to lead to remuneration being affected by factors not captured by the independent variables under study.

¹⁹ Although referred to as the S&P ASX300, from time to time the number of firms included in the index varies slightly from 300. At the time of the current study 301 firms were included in the index.

²⁰ A share split occurred in two companies. The firms were deleted as the change in share price resulting from the share split meant it was difficult to calculate an average share price for the year.

When a CEO leaves the firm, compensation generally includes some form of termination payout. Similarly, CEOs commencing with the firm often receive a sign-on payment. Remuneration level and structure, therefore, are likely to be related to factors other than those under consideration in the study.

Fourteen firms were listed property trusts whose managers were remunerated by a parent entity already included in the sample, these trusts were removed from the sample. The head office for eight firms had an overseas registered address. Remuneration disclosures for these firms are more likely to be affected by legislation in their domicile country. Other reasons for removal of firms included: the firm was added to the ASX300 after the period of the study (five firms); no financial reports were available during the period of the study (two firms); the firm suspended trading during the period of study (one firm); the annual report was presented in a foreign currency (two firms); and the year-end date changed during the period, resulting in the annual report including only six month's performance data (one firm). A total of 113 companies were deleted from the sample, leaving a final sample of 188 firms. A comparison of the size (measured as market capitalisation) of deleted firms against firms remaining in the sample indicates no significant differences in average firm size between the two groups. The sample, therefore, is still representative of the range of firms in the original ASX300. Reasons for deleting companies from the sample are summarised in Table 5.1.

Table 5.1: Selection of Sample Companies

Total in S&P ASX300 at October 2005:		301
Minus: Share prices not available	17	
Change in share price value via share split etc	3	
Change of CEO or managing director	60	
Newly added to ASX300 after period of study	5	
Overseas registered company	8	
No financial reports available for period of study	2	
Suspended trading	1	
Managers remunerated by separate parent entity	14	
Annual report presented in a foreign currency	2	
Changed annual report year end date	1	113
Sample Total:		188

Sample companies are representative of all industry categories as classified by their two-digit GICS code. Table 5.2 summarises the distribution of sample firms across industries. While firms are not clustered in any particular industry, the majority are spread across Materials, Industrials, Consumer Discretionary and Financial industries.

Table 5.2: Industry Classification of Sample Companies

2 Digit GICS Code	Industry	Frequency	Percent (%)
10	Energy	17	9
15	Materials	34	18
20	Industrials	28	15
25	Consumer Discretionary	32	17
30	Consumer Staples	9	5
35	Health Care	18	9
40	Financials	26	14
45	Information Technology	16	8
50	Telecommunication Services	1	1
55	Utilities	7	4
Total		188	100

5.3 Variable Descriptions and Measurement

In order to test the hypotheses, a number of constructs need to be defined and measured. The dependent variable – the level of executive remuneration – must be measured. Measures of firm performance, and firm characteristics including size, complexity and growth opportunities also need to be determined. Measures are also documented for the various monitoring and governance characteristics, represented by: the proportion of external directors, grey directors, busy directors, directors' tenure, the number of external blockholders, and evidence of CEO duality, amongst others. Ownership by managers must also be established. Table 5.3 summarises the study's variable definitions and labels.

Table 5.3: Variable Descriptions and Measurement

Variable	Label	Measurement
<i>Panel A: Executive Compensation</i> Fixed salary Annual bonus Long-term incentive payments Total compensation	SALARY BONUS LTIP TOTALCOMP	Dollar value of cash salary Dollar value of cash bonus Dollar value of long-term incentive payments Dollar value of total remuneration components including salary, bonus, long-term incentive payments and options, other non-performance remuneration
<i>Panel B: Firm Performance</i> Accounting performance Share performance	ROA SHAREPERF	Annual return on assets as measured by EBIT / average total assets One-year share return, incorporating capital gains and reinvestment of dividends
<i>Panel C: Firm Characteristics</i> Firm size Complexity of operations Growth opportunities	SIZE COMPLEX GROWTH	Natural log of total assets Number of business segments across which the firm operates <i>Alternate measure:</i> number of subsidiaries Market to book value of assets
<i>Panel D: Governance Determinants</i> Outside directors Grey directors Busy directors Length of board tenure External blockholders CEO duality Outside directors appointed after CEO CEO on remuneration committee CEO tenure CEO representation on external boards	OUTDIR GREYDIRS BUSYDIRS DIRTEN BLCKHLDR CEODUAL POSTCEO REMCTEE CEOTEN EXTERNAL	Percentage of external directors on the board Percentage of external directors who are grey Percentage of external directors holding more than 5 directorships, with the role of CEO counting as 2 directorships Average length of tenure of external board members (years) 1 = the firm has one or more blockholders with greater than 5% share ownership 0 = the firm does not have any blockholders with greater than 5% share ownership 1 = CEO also holds position of Chair of Board 0 = CEO does not hold both positions Percentage of external directors appointed after the CEO commenced in the role 1 = CEO sits on the remuneration committee 0 = CEO does not sit on the remuneration committee Length of CEO's tenure (years) 1 = CEO sits on external boards or non-profit boards 0 = CEO does not sit on external boards or non-profit boards
<i>Panel E: Ownership Determinants</i> CEO ownership CEO as founder	CEOSHR FOUNDER	Percentage of firm total shares owned by the CEO and relatives 1 = CEO is a founder or relative of a founder 0 = CEO is not a founder or relative

5.3.1 Dependent Variable

The study utilises a number of measures of the dependent variable 'executive remuneration'. Following Finkelstein's (1992) views that the top management team, rather than just the CEO, work in coalition to manage the firm and information dissemination, remuneration is measured for both the CEO and the five 'specified' executives reported in the firm's annual report.²¹ Apart from the CEO, for the purposes of the study, the top five executives are ranked in order of total remuneration. The components of remuneration measured are: salary, cash bonus, long-term incentive payments and total compensation.

The various compensation components are measured separately rather than simply relying on a measure of total compensation. McKnight and Tomkins (2004) and Chalmers, Koh and Stapledon (2006) found that each pay component is influenced by a diverse set of factors. The measurement of remuneration is limited to direct compensation paid by companies to their executives.

Salary (SALARY) and cash bonus (BONUS) are measured as their dollar value reported in the notes to the financial statements. Long-term incentives (LTIP) are calculated as the dollar value of long-term incentive payments

²¹ In a number of instances remuneration data are reported for less than the required five 'specified executives'. 'Specified executives' are defined as the "five or more executives with the greatest authority for the strategic direction and management of the entity" (AASB1046, Para. 4.1). Specified executives are not limited to the most highly paid executives.

including options.²² As previously outlined, valuations provided in company reports, as a requirement of the recently released *AASB2 Share-based Payment* are likely to provide a more accurate measure of option values than those calculated using an option pricing model such as that provided by Black and Scholes (1973). Company-generated values, although still calculated by firms using the Black-Scholes models, or some other pricing technique, consider the likelihood of early exercise, the appropriate risk rate, and other firm-specific factors not available to academics. As such, the current study relies upon firm-generated valuation of options and performance rights presented in annual reports. In addition, testing determines whether differing firm characteristics are evident between those firms which offer long-term incentive payments and those which do not.

Total remuneration (TOTALCOMP) is determined as the dollar value of total remuneration components including: salary, bonus, long term incentive payments, and superannuation and other non-performance remuneration, which includes non-cash benefits such as travel and car allowances, car parking, and insurance.

²² A considerable proportion of sample firms combine both options and other long-term incentive share payments in one category called 'performance rights/options' or similar. As such, one total value for long term incentive payments is computed.

5.3.2 Independent Variables

5.3.2.1 Firm Performance

Both share-based measures and accounting measures of firm financial performance are calculated, given each is likely to provide valuable information that the CEO took the desired action (Conyon and Sadler, 2001). In addition, both share-based and accounting measures are used by firms to varying degrees to determine the appropriate bonus or long-term incentive component of remuneration.

Rate of return on total assets (ROA) is used to represent accounting performance (Chalmers, Koh and Stapledon, 2006). Market performance is measured as the one-year share return, incorporating capital gains and reinvestment of dividends (SHAREPERF). It is calculated as the natural log of (closing year share price plus dividends paid in the year) minus natural log of closing share price the previous year. This measure has been utilised in prior research examining determinants of executive compensation (see for example McKnight and Tomkins, 1999; Fleming and Stellios, 2002). A review of the financial reports of sample firms indicates that where performance hurdles based upon market measures of performance are set, total return to shareholders is a common measure utilised.

Sensitivity analysis is conducted using lagged measures of firm financial performance. Changes in salary are generally lagged with respect to

achievement (usually growth in the size of the firm) (McKnight and Tomkins, 2004), which suggests a need to perform sensitivity analysis based on prior year measures of firm performance. Bonuses and long-term performance bonuses are generally contemporaneous with the relevant measure of performance (profit, return on assets etc) (McKnight and Tomkins, 2004).

5.3.2.2 Firm Characteristics

To test hypotheses 2 through 4 the following variables are determined: Firm size (SIZE) is measured as the natural log of total assets (Chalmers, Koh and Stapledon, 2006). The number of business segments across which the firm operates is calculated in order to provide the measure of firm complexity (COMPLEX). Consistent with Matolcsy and Wright (2006b), an alternative measure of the number of subsidiaries is also used in sensitivity testing. To test hypotheses 4a and 4b growth opportunities (GROWTH) are calculated as: Market to book value of assets, calculated as the ratio of (book value of liabilities + book value of preferred shares + market value of ordinary shares) to book value of total assets (Smith and Watts, 1992; Gaver and Gaver, 1995).

5.3.2.3 Monitoring and Governance Variables

The influence of outside directors on executive remuneration (OUTDIR) is calculated as the percentage of external directors on the board. Grey directors (GREYDIRS) are determined as the proportion of external directors

on the board who are 'grey'. Grey directors are not employees but have other dealings with the companies on whose board they sit. These dealings could include offering legal or accounting advice to the firm (Lee, 2002; Cahan, Chua and Nyamiori, 2005). Alternatively, they could have been previously employed as executives of the firm. In accordance with guidelines issued by the Australian Shareholders' Association Ltd Policy Statement 2005, and the construct used by Fleming and Stellios (2002), busy directors (BUSYDIRS) are determined as the percentage of external directors holding more than five directorships, with the role of CEO counting as two directorships. The average length of tenure of external board members, in years, is used to determine directors' tenure (DIRTEN).

The influence of external blockholders (BLCKHLDR) is measured as a dichotomous variable: 1 = the firm has one or more external blockholders with greater than 5% share ownership; 0 = the firm does not have any external blockholders with greater than 5% share ownership (Fleming and Stellios, 2002). CEO duality (CEODUAL) employs another indicator variable: 1 if the CEO also holds the position of Chair of the Board; 0 if the CEO does not hold both positions. The percentage of external directors appointed after the CEO commenced in the role (POSTCEO) is used to determine the influence the CEO may have over the board of directors through appointing directors sympathetic to his or her ideas. CEO representation on the remuneration committee (REMCTEE) utilises a dichotomous variable: 1 =

CEO sits as a member of the Remuneration Committee; 0 = CEO does not sit as a member of the Remuneration Committee.

The final two governance variables relate to the length of the CEO's tenure (CEOTEN), measured as the number of years in the role, and whether the CEO has developed connections external to the organisation by sitting on external boards (EXTERNAL), determined as: 1 if the CEO sits on external boards or non-profit boards, and 0 otherwise.

5.3.2.4 Ownership Variables

To assess the influence of managerial share ownership on compensation, hypotheses 15 and 16 require the measurement of CEOs' and their family shareholdings in the firm (CEOSHR), calculated as a percentage of total shares on issue, and whether the CEO is the founder or related to the founder of the organisation (FOUNDER), using an indicator variable of 1 if the CEO is a founder, and 0 otherwise.

5.4 Statistical Tests

To test the hypotheses developed in Chapter 4, multivariate tests employing multiple regression techniques examine the relative explanatory power of all independent variables on the components of executive remuneration. The regression model is stated as follows:

$$\begin{aligned} \text{COMPENSATION} = & \beta_0 + \beta_1\text{ROA} + \beta_2\text{SHAREPERF} + \beta_3\text{SIZE} + \beta_4\text{COMPLEX} \\ & + \beta_5\text{GROWTH} + \beta_6\text{OUTDIR} + \beta_7\text{GREYDIRS} + \\ & \beta_8\text{BUSYDIRS} + \beta_9\text{DIRTEN} + \beta_{10}\text{BLCKHLDR} + \\ & \beta_{11}\text{CEODUAL} + \beta_{12}\text{POSTCEO} + \beta_{13}\text{REMCTEE} + \\ & \beta_{14}\text{CEOTEN} + \beta_{15}\text{EXTERNAL} + \beta_{16}\text{CEOSHR} + \\ & \beta_{17}\text{FOUNDER} + \varepsilon \end{aligned}$$

COMPENSATION in the above model represents the individual components of compensation identified in Section 5.3.1. Separate models are derived for each of the following measures of COMPENSATION: SALARY, BONUS, LTIP and TOTALCOMP.

5.5 Conclusion

This chapter documented the relevant sample selection procedure, research design and method of statistical analysis employed in testing the hypotheses developed in Chapter 4. A description of each variable, and measures employed in testing were also outlined. Variable descriptive characteristics and results of hypotheses tests are presented in the next chapter.

Chapter 6

RESULTS

The design for testing the hypotheses, developed in Chapter 4, was outlined in the previous chapter. This chapter reports the results of those tests. The structure of compensation for CEOs and the top executive team is described in Section 6.1. Descriptive characteristics of the independent variables used in hypotheses tests are then outlined in Section 6.2. The results of hypotheses tests, and some concluding comments, are presented in the remaining sections.

6.1 *Structure of Executive Compensation*

Table 6.1 details the main components of executive remuneration for CEOs and for the top five senior executives measured for the study. In addition, the average level of compensation for non-CEOs is reported.

Table 6.1: Descriptive Statistics of Executive Remuneration

Variable	Min	Max	Mean	St Dev	Mean % of Total
CEO N = 188					
SALARY	0	2,675,000	653,266	462,489	39%
BONUS	0	5,180,786	436,689	721,803	26%
LTIP	0	12,713,457	428,157	1,140,934	26%
TOTALCOMP	6,404	18,553,566	1,673,163	2,133,789	
Average Non-CEO N = 188					
SALARY	86,682	988,024	302,901	162,864	47%
BONUS	0	2,256,664	141,003	250,757	22%
LTIP	0	5,617,122	121,131	432,820	19%
TOTALCOMP	92,558	8,258,576	646,481	768,485	
Executive 1 N = 188					
SALARY	23,606	1,498,048	391,398	241,866	38%
BONUS	0	5,640,500	253,200	639,152	25%
LTIP	0	12,625,293	229,497	955,488	23%
TOTALCOMP	122,615	18,220,097	1,019,468	1,648,160	
Executive 2 N = 184					
SALARY	0	1,311,225	334,138	201,582	47%
BONUS	0	2,825,657	163,311	282,023	23%
LTIP	0	7,050,630	137,844	550,556	19%
TOTALCOMP	61,333	10,347,232	712,862	916,102	
Executive 3 N = 175					
SALARY	81,667	1,518,000	303,834	175,436	48%
BONUS	0	2,720,437	128,720	249,136	20%
LTIP	0	6,678,628	119,274	517,539	19%
TOTALCOMP	95,550	9,728,727	630,906	846,700	
Executive 4 N = 169					
SALARY	0	963,000	268,209	152,447	52%
BONUS	0	1,484,000	102,407	179,489	20%
LTIP	0	1,323,245	73,971	157,489	15%
TOTALCOMP	70,220	3,094,000	512,789	462,641	
Executive 5 N = 158					
SALARY	0	654,550	242,025	133,865	56%
BONUS	0	938,000	85,338	138,424	19%
LTIP	0	654,761	57,825	107,917	13%
TOTALCOMP	35,477	2,146,000	437,393	360,415	

Note: Measures of SALARY, BONUS, LTIP AND TOTALCOMP are shown in dollars

TOTALCOMP includes 'other' remuneration such as consulting fees, superannuation and fringe benefits that are not separately listed. As such, mean percentages of SALARY, BONUS and LTIP do not add to 100%

The mean total CEO compensation of \$1,673,163 is lower than the average total pay of \$1,887,880 reported by Chalmers, Koh and Stapledon (2006), but higher than the mean total compensation of \$1,111,400 observed by Fleming and Stellios (2002), and \$1,061,433 documented by Coulton and Taylor (2002b). The current study was undertaken in a more recent time period than prior documented research. As such, you would expect an inflationary effect to support an increased level of remuneration in the current study. The higher average total pay observed by Chalmers, Koh and Stapledon (2006) is interesting, given their study documents remuneration for the period 1999 to 2002. Chalmers, Koh and Stapledon (2006) focused their study on the top 200 Australian firms, which limits their analysis to a larger average firm-size than the current study, where the top 300 are examined. The association between firm size and compensation is examined in Section 6.3.

While the majority of CEOs received a base salary, CEOs of three sample companies received no salary. One CEO received all compensation as consulting fees, while two CEOs were awarded bonuses, options and company shares. This is consistent with Matolcsy and Wright's (2006a) observations. The lowest CEO total compensation of \$6,404 consists of benefits only, awarded to the CEO of Collection House Ltd. The CEO, John Pearce, opted to receive no remuneration effective 8 April 2003. That request continued during the sample period.

Consistent with prior research in both the US and UK, an increase in the use of bonus or incentive compensation is observed. Where the mean level of CEO long-term incentive compensation (options and shares) of \$428,157 is relatively consistent with that observed by Chalmers, Koh and Stapledon (2006) (\$397,941), cash bonus pay is higher (\$436,689 compared to \$299,297).

There is substantial variation across sample firms with regards to the level of all components of remuneration, as indicated by the reported standard deviations. Mean salaries range from \$242,025 for executives at the lowest level up to \$391,398 for the executive immediately below the CEO. Total compensation ranges from an average of \$1,019,468 down to \$437,393. An examination of Table 6.1 shows that both cash bonuses and long-term incentives play a role in the average remuneration packages of non-CEO executives, however, to a progressively lesser extent down the executive hierarchy.

Figure 6.1a provides a graphical representation of the relative proportions of compensation components for CEOs and average non-CEO executives, while Figure 6.1b presents a comparison across all executive levels. Supporting data are also presented in the final column of Table 6.1. On average, 39 percent of CEO total compensation consists of salary, with 52 percent attributed to performance-based remuneration (on average 26 percent to each of long-term incentive payments and short-term cash bonus).

The remainder of CEO pay is made up of superannuation and non-incentive awards such as car and travel expenses. These results are consistent with the 'equity group' observed by Matolcsy and Wright (2006a), and represent an increased use of incentive and bonus pay when compared to that revealed in Coulton and Taylor's (2002b) study, where salary constituted, on average, 65 percent of total compensation, while bonuses and options represented 10 and 11 percent of total compensation, respectively. The proportion of long-term incentive pay is slightly higher than that found by Conyon *et al.* (2000) in their study of UK firms, where 80 percent of compensation is, on average, cash-based.

Although a slightly higher proportion of non-CEO executive pay is fixed salary (mean of 47 percent), on average, 41 percent of non-CEO executive compensation is in the form of incentive pay (22 percent short-term cash bonus and 19 percent long-term incentive compensation). As documented in both Table 6.1 and Figures 6.1a and 6.1b, the importance of bonuses and long-term incentive pay in the compensation contracts of non-CEO executives decreases down the executive hierarchy. Whilst bonuses and long-term incentives represent 25 and 23 percent of total compensation, respectively, for executives immediately below the CEO, this is reduced to 19 and 13 percent of total pay for executives at level five. Similarly, salary as a proportion of total pay decreases in importance as executives move up the corporate hierarchy. While salary of executives at level five contributes, on average, 56 percent to total pay, this is reduced to 38 percent for executives

immediately below the CEO. These results do not align with US evidence presented by Ryan and Wiggins (2000), who found no difference in the structure of executive pay across the senior management team. The results are consistent with Ang, Lauterbach and Schreiber's (2002) observation of US banks, however, where CEOs receive higher proportions of long-term incentive-pay than other senior executives.

Figure 6.1a: Components of Executive Remuneration – CEOs and Average of Non-CEO Executives

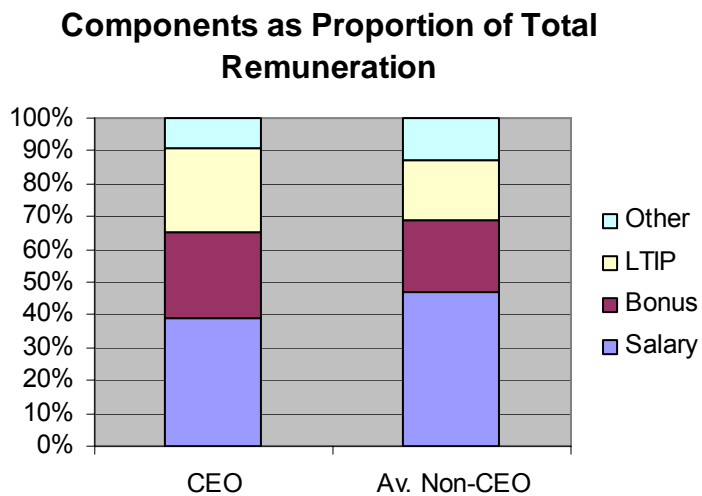
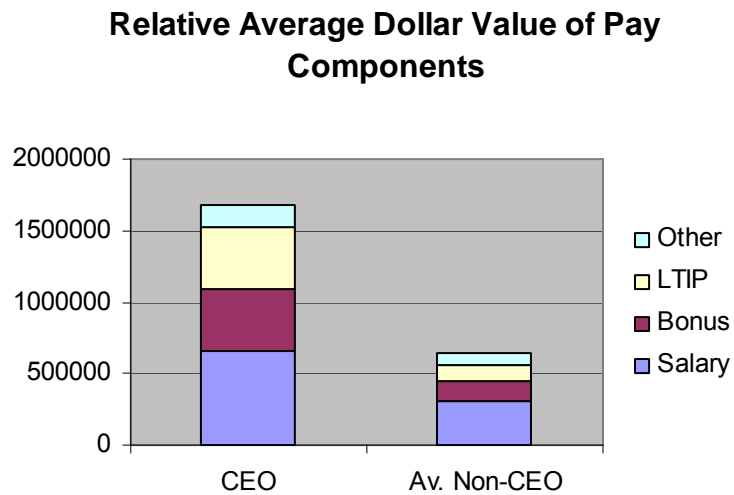
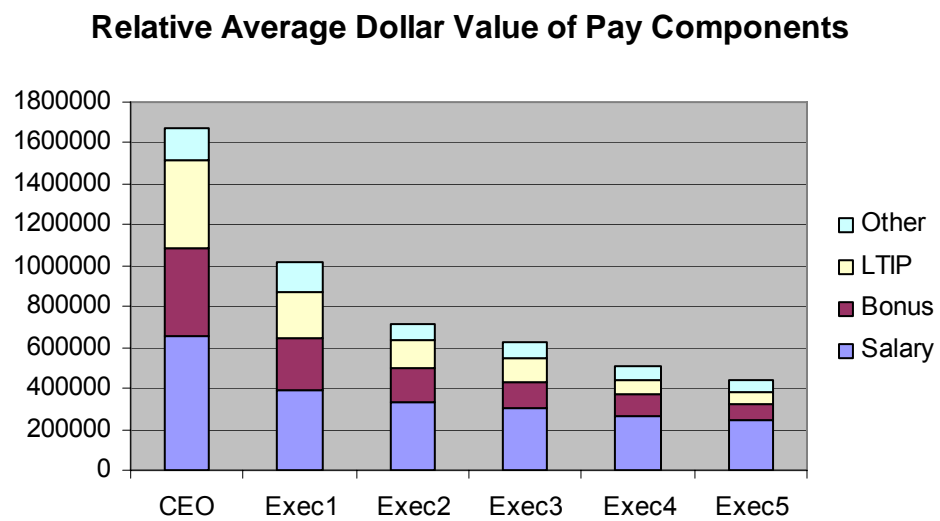
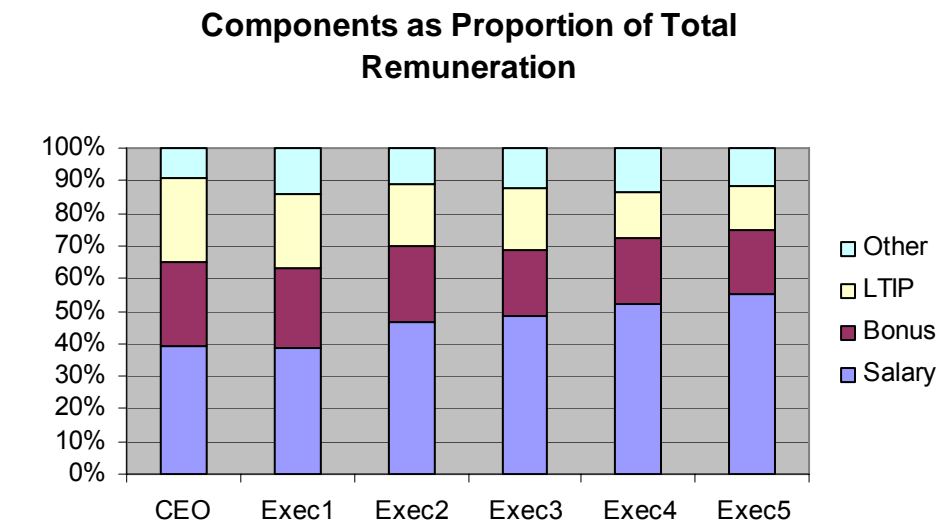


Figure 6.1b: Components of Executive Remuneration by Level of Executive



Preliminary testing examined the variation in remuneration across executive levels. A series of One-Way ANOVA tests was conducted to determine if there were significant differences in each category of executive pay. Significant differences in the level of salary (F Ratio 60.3, $p < 0.001$), long-term incentive payments (F Ratio 2.8, $p < 0.05$) and total remuneration (F Ratio 42.2, $p < 0.001$) were observed. Post hoc 'least significant difference' (LSD) and Tukey 'honestly significant difference' (HSD) tests indicated that CEO salary and total remuneration is significantly greater than all other executives. Similarly, both the salary and total pay of executives immediately below the CEO in the corporate hierarchy are significantly greater than lower-level executives. In addition, long-term incentive remuneration of executives at level one is greater than that of executives at levels four and five in the senior management team. Executives at level five receive significantly lower levels of salary and total remuneration than executives at levels two and three on the corporate hierarchy.

While Deegan (1997) found greater than one third of his sample received all their compensation as a fixed salary. Table 6.2 presents data which indicate that more than 80 percent of sample companies now use long-term incentive compensation payments to reward both CEOs and non-CEO executives. Cash bonuses are more prevalent as a compensation method for non-CEO executives, at 82 percent of the sample, than for CEOs, where only 68 percent of sample firms use cash bonuses to reward CEOs. This also represents an increased use of incentive compensation than was observed

by Coulton and Taylor (2002b), who found that 51 percent of their sample utilised cash bonuses to reward CEOs, while 31 percent utilised options in CEO pay contracts. Similarly, the results of the current study also represent an increased use of share-based incentive pay than was found by Matolcsy and Wright (2006a), where 66 percent of their sample had an equity-based scheme in place. These results clearly indicate the increased use of incentive-based pay across the senior management team following *CLERP 9* changes to the corporations' legislation.

Table 6.2: Frequencies of Firms Using Bonus and LTIP Compensation

	Short-term Cash Bonus		Long-term Incentive Payments	
	Frequency	Percent	Frequency	Percent
CEO	127	68%	163	87%
Non-CEO Executives	154	82%	158	84%
Firm Average	156	83%	163	87%

Data summarising options granted by sample firms are presented in Table 6.3. Of the total sample, 67 percent of firms have provision for option payments available to senior managers. This observation is consistent with Matolcsy and Wright's (2006a) study, and slightly greater than Coulton and Taylor's (2002b) results where 66 percent and 59 percent of sample CEOs, respectively, held options at year end. Of the 124 firms with provision for option grants, 43 (35 percent) granted options in the sample period. Again,

this aligns with Matolcsy and Wright's (2006a) findings, where 163 of their 458 equity firms (35 percent) awarded equity grants in the year in question.

Table 6.3: Option Grants by Sample Firms

	Frequency	Percent	
Panel A: Option Grants Across Total Sample			
Firms with provision for options	124	67%	
Options granted in sample period	43	23%	
Exercised in sample period	40	21%	
Panel B: Option Grants by Industry Group			
	Total	Frequency	Percent
Firm with provision for options:			
Mining and energy	16	11	69%
Manufacturing and industrial	106	68	64%
Finance	26	16	62%
Other	40	31	78%
Options granted in sample period:			
Mining and energy	16	7	44%
Manufacturing and industrial	106	22	21%
Finance	26	7	27%
Other	40	7	17%

While 124 firms in the sample provided options to senior managers, a comparison of Tables 6.2 and 6.3 indicates that other forms of long-term incentive payments are also awarded by sample firms. The remaining 39 firms who award long-term equity incentives utilise performance rights rather than options as the primary method of awarding equity-based compensation. This appears to offer support for Ernst and Young's (2006) recent observation that share options, although continuing to represent the most

common long-term incentive plan type, are decreasing in prominence, with performance rights increasing in prevalence.

In order to assess variation in option use across industries, firms were grouped in industry groupings in accordance with those used by Matolcsy and Wright (2006a) and Chalmers, Koh and Stapledon (2006). Results are again presented in Table 6.3. The use of options as a compensation method is relatively consistent across industries, and aligns with Matolcsy and Wright's (2006a) results. Of the 68 percent of manufacturing and industrial firms with provision for option payments, only one third awarded options in the sample year. Firms in the 'other' category awarded a similar proportion, while both mining and financial firms were more likely to award options in the sample year.

The proportion of sample firms awarding long-term incentive payments subject to performance hurdles is presented in Panel A of Table 6.4. A graphical representation is also provided in Figure 6.2. Of the total of 161 sample firms utilising long-term incentive payments, an average of 66 percent award long-term incentives subject to meeting some form of performance hurdle. This represents a significant increase of the use of performance hurdles since Matolcsy and Wright (2006a) carried out their analysis. A number of sample firms indicated the use of performance hurdles to be relatively new, with schemes approved by shareholders within the last year or two. Three sample firms, while not basing payment of long-term

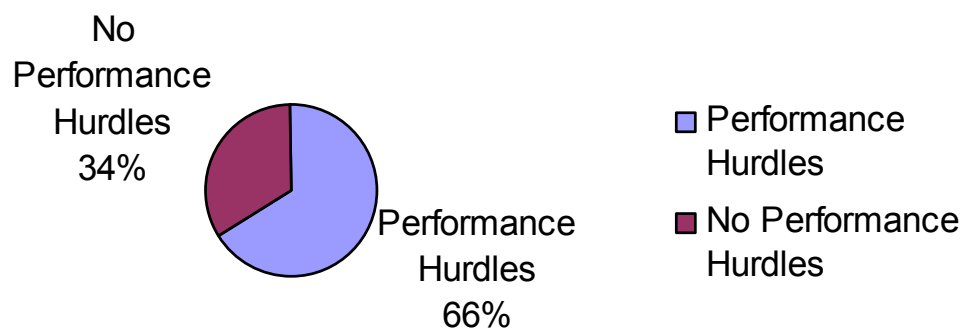
incentives on performance hurdles during the sample period, indicated in their annual reports that the board intended to present a revised incentive payment scheme to the next annual meeting of shareholders. The use of performance hurdles by Australian firms is consistent with that observed in the UK, where Conyon *et al.* (2000) found that 62 percent of option schemes attach performance criteria to the exercise of those options.

Table 6.4: Long-term Incentives Subject to Performance Hurdles

	Frequency	Percent	
Panel A: Performance Hurdles Across Sample Using LTIP			
N = 161			
Firms using performance hurdles	106	66%	
Firms not using performance hurdles	55	34%	
Panel B: Performance Hurdles by Industry Group			
	Total	Frequency	Percent
Mining and energy	13	7	54%
Manufacturing and industrial	92	64	70%
Finance	22	15	68%
Other	34	20	59%

Figure 6.2: Performance Hurdles for Total Sample

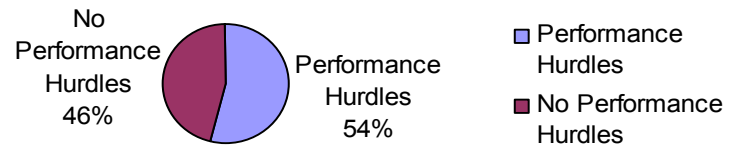
Total Sample N = 161



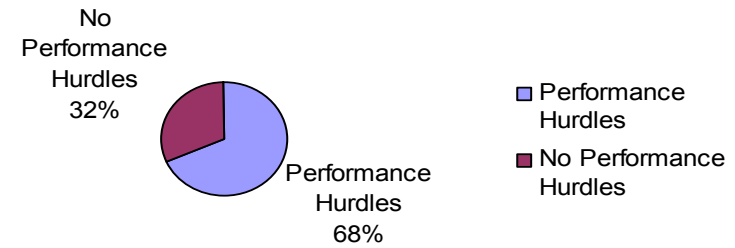
Both Table 6.4 Panel B and Figure 6.3 present data relating to performance hurdles across major industry groupings. Firms in both manufacturing and industrial, and financial industries are more inclined to utilise performance hurdles than those in mining and energy and 'other' industries. Seventy percent of manufacturing and industrial firms now make use of performance hurdles to award long-term incentives, while 68 percent of finance firms use hurdles in determining incentive pay. Greater than 50 percent of firms across all industries use performance hurdles in awarding incentive pay components. These figures represent a significant increase in the use of performance hurdles from prior Australian evidence presented by Matolcsy and Wright (2006a).

Figure 6.3: Performance Hurdles by Industry

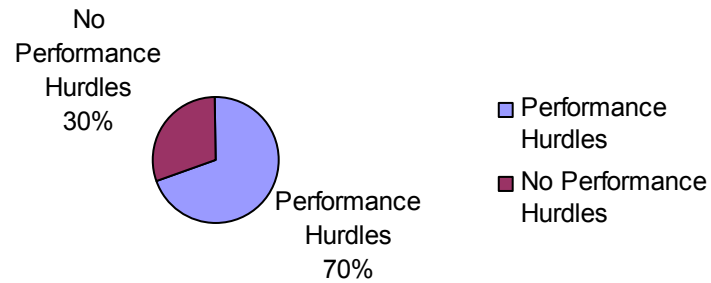
Mining and Energy N = 13



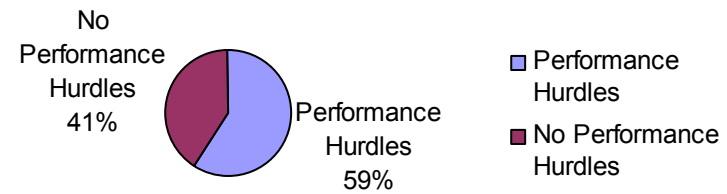
Manufact. and Industrial N = 92



Finance N = 22



Other N = 24



6.2 Descriptive Statistics: Independent Variables

6.2.1 Firm Performance

Descriptive statistics for measures of firm financial performance used in the study are presented in Table 6.5.

Average return on assets is 8 percent. It ranges from a high of 55 percent down to a low of -113 percent. This is consistent with the average return on assets observed by prior Australian research (see for example Matolcsy and Wright, 2006c; Chalmers, Koh and Stapledon, 2006). The mean measure of share return is 13 percent.

Table 6.5: Descriptive Statistics of Measures of Firm Performance

Variable	Min	Max	Mean	St Dev
Accounting Performance Measure				
ROA	-1.13	0.55	0.08	0.19
Share Performance Measures				
SHAREPERF	-1.00	22.56	12.96	6.51

Note: ROA = Return on Assets as calculated by EBIT / average total assets

SHAREPERF = $\ln(\text{closing year share price} + \text{dividends paid}) - \ln(\text{closing share price } t-1)$

6.2.2 Firm Characteristics

Table 6.6 presents the descriptive characteristics of the three economic firm characteristics utilised in hypotheses testing.

Table 6.6: Descriptive Statistics of Firm Characteristics

Variable	Min	Max	Mean	St Dev
SIZE	12,794,000	227,468,000,000	5,835,444,513	28,551,376,670
COMPLEX	1	6	2.5	1.47
GROWTH	0.40	14.84	2.16	1.94

Note: SIZE = dollar average total assets (note: the natural log of total assets is used in hypothesis testing).

COMPLEX = number of business segments the firm operates across

GROWTH = (book value of liabilities + book value of preferred shares + market value of ord. shares) / book value of total assets

The mean size of sample firms, as measured by the average total assets, is \$5,835,444,513. Sample firms operate across an average of 2.5 business segments. An alternative measure used to indicate the complexity of a firm's operations is the number of subsidiaries. The mean number of subsidiaries across sample firms is 42, with a minimum of zero, and maximum of 944. The standard deviation of 81 indicated greater variation in this measure than the number of business units. Primary hypotheses tests use the number of business segments. However, sensitivity testing assesses whether the use of the number of subsidiaries as a measure of complexity elicits different results. Mean market to book value of assets, as a measure of firm growth opportunities (GROWTH) is 2.16.

6.2.3 Monitoring and Governance Variables

Descriptive statistics relating to the 10 variables hypothesised to indicate effective board monitoring and governance are presented in Table 6.7. Panel

A outlines descriptive characteristics of continuous variables, while Panel B details the dichotomous variables.

Table 6.7: Descriptive Statistics of Governance Variables

Panel A: Continuous Variables				
Variable	Min	Max	Mean	St Dev
OUTDIR	25%	92%	75.18%	13.10%
GREYDIRS	0%	100%	16.36%	20.71%
BUSYDIRS	0%	75%	11.04%	16.36%
DIRTEN	1.17yrs	18.11yrs	5.45yrs	3.03yrs
POSTCEO	0%	100%	60.11%	33.76%
CEOTEN	0.25yrs	27yrs	7.30yrs	5.60yrs
Panel B: Dichotomous Variable				
Variable	Code	Frequency	Percent	
BLCKHLDR	1	162	86%	
	0	26	14%	
CEODUAL	1	15	8%	
	0	173	92%	
REMCTEE	1	55	29%	
	0	133	71%	
EXTERNAL	1	86	46%	
	0	102	54%	

Note: OUTDIR = % external directors on the board
 GREYDIRS = % external directors that are classified as 'Grey'
 BUSYDIRS = % external directors holding more than 5 directorships
 DIRTEN = average length of tenure of external board members in years
 POSTCEO = % external directors appointed after the CEO commenced
 CEOTEN = length of CEO's tenure in years
 BLCKHLDR = 1= the firm has one or more blockholders with >5% share ownership
 0= the firm does not have one or more blockholders
 CEODUAL = 1 = CEO also holds the position of Chair of the Board
 0 = CEO does not hold both positions
 REMCTEE = 1 = CEO sits on Remuneration Committee
 0 = CEO does not sit on Remuneration Committee
 EXTERNAL = 1 = CEO sits on external boards or non-profit boards
 0 = CEO does not sit on external boards or non-profit boards

An average of 75 percent of directors are outside directors, however, there is evidence of a minority of external directors in some sample firms (minimum 25 percent). The average proportion of external directors who are classed as 'grey' is 16 percent. However, in one firm, all outside directors have dealings with the firm such that their independence is compromised. On average, 11 percent of non-executive directors are classed as busy due to the number of positions they hold on external boards. Average tenure of external directors is almost 5.5 years.

On average, 60 percent of outside directors were appointed subsequent to the CEO commencing in the role, and CEOs have held office for an average of 7.3 years, with the maximum term of office being 25 years.

External blockholders are evident in 86 percent of sample firms. Despite guidelines issued by the ASX Corporate Governance Council, eight percent of sample firms from the S&P ASX300 still have a CEO who holds the dual role of both CEO and Chair of the Board, and almost 30 percent sit as a member of the Remuneration Committee. Almost half (46 percent) of the sample company CEOs sit on either external company boards, non-profit boards, or both.

6.2.4 Ownership Variables

Descriptive statistics relating to the variables reflecting ownership determinants of compensation are presented in Table 6.8. Consistent with Chalmers, Koh and Stapledon (2006) CEOs hold, on average, 4.4 percent of the shares on issue. Share ownership by CEOs ranges from zero to approximately 48 percent. The variation of ownership is great at all levels of executive. The average proportion of shares, owned by other senior executives, ranges from 0.16 to 1.2 percent.

In approximately 5 percent of sample firms (9 firms) the CEO owns greater than 25 percent of the shares. The variation in share ownership of executives at level one is essentially driven by one firm, where the executive owns 62 percent of the shares. This executive was the founder of the company. In only three sample companies do executives at level one own greater than 10 percent of the shares on issue.

In 15 percent of sample firms the CEO is either a founder or a relative of the founder of the firm.

Table 6.8: Descriptive Statistics of Ownership Variables

Panel A: Continuous Variables				
Variable	Min	Max	Mean	St Dev
CEOSHARE	0%	47.58%	4.41%	8.95%
SHARE1	0%	62.19%	1.20%	5.47%
SHARE2	0%	13.98%	0.38%	1.48%
SHARE3	0%	8.39%	0.16%	0.79%
SHARE4	0%	29.26%	0.27%	2.31%
SHARE5	0%	29.26%	0.36%	2.66%
Panel B: Dichotomous Variable				
Variable	Code	Frequency	Percent	
FOUNDER	1	29	15%	
	0	159	85%	

Note: CEOSHARE = % of firm total shares owned by the CEO and relatives
 SHARE1 = % of firm total shares owned by executive 1 and relatives
 SHARE2 = % of firm total shares owned by executive 2 and relatives
 SHARE3 = % of firm total shares owned by executive 3 and relatives
 SHARE4 = % of firm total shares owned by executive 4 and relatives
 SHARE5 = % of firm total shares owned by executive 5 and relatives
 FOUNDER = 1 = CEO is a founder or a relative of a founder
 0 = CEO is not a founder or relative of a founder

6.3 Hypotheses Testing

OLS regression was conducted to assess the relative importance of the hypothesised determinants of executive remuneration. The following model was tested on the various measures of compensation identified in Chapter 5: salary, cash bonus, long-term incentive payments and total compensation. The tests were conducted for both CEOs and average remuneration for non-CEO executives.²³ In addition, logistic regression was utilised to assess the

²³ Average non-CEO compensation was used in testing rather than total measures to account for the number of sample companies who had less than five 'specified executives', which would potentially distort results.

determinants of the decision to offer a short-term cash bonus and/or long-term incentive payments.

$$\begin{aligned} \text{COMPENSATION} = & \beta_0 + \beta_1\text{ROA} + \beta_2\text{SHAREPERF} + \beta_3\text{SIZE} + \beta_4\text{COMPLEX} \\ & + \beta_5\text{GROWTH} + \beta_6\text{OUTDIR} + \beta_7\text{GREYDIRS} + \\ & \beta_8\text{BUSYDIRS} + \beta_9\text{DIRTEN} + \beta_{10}\text{BLCKHLDR} + \\ & \beta_{11}\text{CEODUAL} + \beta_{12}\text{POSTCEO} + \beta_{13}\text{REMCTEE} + \\ & \beta_{14}\text{CEOTEN} + \beta_{15}\text{EXTERNAL} + \beta_{16}\text{CEOSHR} + \\ & \beta_{17}\text{FOUNDER} + \varepsilon \end{aligned}$$

The testing for significance of estimated parameters in linear regression assumes the errors approximate a normal distribution. Natural logarithmic transformations were applied to all measures of compensation prior to modelling: this reduced heteroskedasticity. A number of zero measures were present in the data. As the natural log of zero is undefined, the value of 0.0001 was added to the variables prior to transformation.

Appendix 1 provides correlations for the independent variables. Tabachnick and Fidell (1989) indicate that multicollinearity is an issue if the correlation coefficient is greater than 0.70. An examination of the Tables in Appendix 1 suggests no such issues for the data sample. In addition, variance inflation factors and tolerance levels calculated for each model indicate no multicollinearity problems.

The accounting and share measures of firm financial performance are not affected by multicollinearity. As such, both ROA and SHAREPERF are included in hypotheses testing to assess the relative importance of each. In addition, the various components of compensation (SALARY, BONUS, LTIP, TOTALCOMP) could potentially be influenced by different measures of firm performance. For instance it is possible that cash bonuses could be tied to accounting measures of performance, whereas long-term incentives could be more likely to relate to market performance measures. Including both measures in the regression models will enable their relative relation to compensation components to be determined. Case-wise diagnosis on all regression models indicates no significant outliers are present in any of the models.

6.3.1 Determinants of CEO Compensation

Table 6.9 provides results of testing relating to the determinants of CEO compensation. Models estimating salary, cash bonus, long-term incentives and total compensation are presented. All models have good explanatory power, with the R-squared ranging from 51 percent for the model explaining long-term incentive pay to 70 percent for the model estimating determinants of salary.

Table 6.9: OLS Estimate of Determinants of CEO Compensation

Variable	Hyp	Pred. Sign	Salary		Cash Bonus		Long-Term Incentives		Total Compensation	
			Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
<i>Firm Performance</i>										
ROA	1	+	0.262	5.574***	0.119	0.789	0.248	0.752	0.268	3.343***
SHAREPERF	1	+	-0.003	-0.410	0.053	2.334***	-0.023	-0.405	0.001	0.112
<i>Firm Characteristics</i>										
SIZE	2	+	0.257	10.070***	0.452	6.096***	0.715	4.850***	0.442	10.233***
COMPLEX	3	+	0.034	1.535*	0.118	1.967**	0.084	0.701	0.046	1.217
GROWTH	4	+	-0.017	-0.560	0.159	1.897**	0.353	1.833**	0.121	2.316***
<i>Governance Determinants</i>										
OUTDIR	5	-	0.568	2.073**	1.255	1.429*	-1.715	-0.938	-0.653	-1.410**
GREYDIRS	6	+	-0.164	-1.112	-0.891	-2.115**	0.495	0.421	-0.136	-0.539
BUSYDIRS	7	+	0.271	1.446*	0.542	1.095	-0.456	-0.438	0.421	1.316**
DIRTEN	8	-	-0.002	-0.361	-0.003	-0.236	-0.001	-0.023	-0.001	-0.156
BLCKHLDR	9	-	0.078	0.860	0.261	1.022	0.600	1.014	-0.025	-0.162
CEODUAL	10	+	-0.030	-0.223	0.187	0.369	-5.370	-1.906**	-0.138	-0.608
POSTCEO	11	+	-0.172	-1.420*	0.037	0.118	0.002	0.003	-0.042	-0.202
REMCTEE	12	+	0.047	0.647	-0.069	-0.358	-0.162	-0.355	0.113	0.920
CEOTEN	13	+	0.024	3.015***	0.001	0.033	-0.003	-0.048	0.023	1.656**
EXTERNAL	14	+	0.047	0.769	-0.325	-1.992**	0.179	0.574	-0.183	-1.754**
<i>Ownership Determinants</i>										
CEOSHR	15	+	-0.019	-3.549***	0.048	2.167**	0.076	0.977	-0.029	-3.211***
FOUNDER	16	+	-0.114	-0.972	-0.855	01.893**	2.859	2.219**	-0.522	-2.654***
Constant		+/-	8.113	16.575	1.222	0.889	-1.655	-0.557	5.765	6.907
R-squared			0.697		0.647		0.507		0.663	
F Statistic			18.101		10.264		2.600		15.624	
Significance			0.000		0.000		0.006		0.000	

*** significant at 1% (one-tailed)

** significant at 5% (one-tailed)

* significant at 10% (one-tailed)

There is support for the agency argument that the alignment of shareholder and managers actions is achieved by aligning remuneration with firm financial performance. Hypothesis 1 was supported where accounting performance (ROA) was positively associated with CEO salary and total compensation. Consistent with expectations, cash bonus was found to positively relate to the market performance measure (SHAREPERF). Contrary to predictions, long-term incentives were not associated with either accounting or market performance constructs.

Results are consistent with Chalmers, Koh and Stapledon (2006), who also found a positive association between firm performance and all components of compensation except shares. The positive association between cash-based incentive pay and firm performance aligns with McKnight and Tomkins' (1999) results. Sensitivity testing for all components of remuneration found ROA and SHAREPERF for the prior year to be insignificant, indicating that companies are complying with disclosure regulations and are reporting remuneration components payable based upon the current period's performance.

The study examined the association between three economic characteristics of firms and remuneration: firm size, complexity, and growth opportunities. Hypothesis 2, which predicted an association between firm size (SIZE) and remuneration, was supported for all components. This is consistent with prior overseas and Australian research (Core, Holthausen and Larcker, 1999;

Laing and Weir, 1999; Murphy, 1999; McKnight and Tomkins, 1999; Coulton and Taylor, 2002b; Fleming and Stellios, 2002; Chalmers, Koh and Stapledon, 2006; Matolcsy and Wright, 2006b). This result supports the argument that demand for the higher quality labour required to successfully run a large corporation is rewarded by both higher salary and incentive compensation.

Consistent with Agarwal (1981) and Matolcsy and Wright (2006b), hypothesis 3, which predicts an association between the complexity of the firm's operations and remuneration is supported for both the level of salary and cash bonuses paid to CEOs. Sensitivity testing examining the relation between the alternative measure of complexity (number of subsidiaries) and remuneration levels indicate no difference in results.

Firms with higher growth opportunities (hypothesis 4) are also likely to pay higher cash bonuses and long-term incentive payments to CEOs. This result is consistent with the observations of Gaver and Gaver (1995) who propose that growth firms are more likely to use incentive compensation. The finding also supports prior Australian research undertaken by Chalmers, Koh and Stapledon (2006).

The relationships between a number of monitoring and governance mechanisms and remuneration were also assessed. While hypothesis 5 predicted a negative relationship between the proportion of outside directors

on the board (OUTDIRS) and remuneration, a positive association between OUTDIRS and CEO salary and, to a lesser extent, cash bonuses (significant at the 10 percent level) was found. This result is consistent with Core, Holthausen and Larcker's (1999) finding. It supports a managerial power argument, where governance mechanisms could be weak, and external directors are influenced by the CEO rather than operating independently.

The proportion of grey directors negatively relates to the level of cash bonus paid to CEOs. This result is contrary to that proposed by hypothesis 6, and prior results obtained by Core, Holthausen and Larcker, 1999. The finding may be attributed to CEO risk preferences and variations in compensation structures as a result of different governance structures (Chalmers, Koh and Stapledon, 2006), where the CEO is able to influence the board. Consistent with the expectations of hypothesis 7, the CEO is able to influence the board where there are busy directors. This influence manifests in higher salary and total remuneration levels.

Hypotheses proposing an association between the length of directors' tenure (hypothesis 8), the existence of blockholders (hypothesis 9), and the CEO's representation on the remuneration committee (hypothesis 12) and remuneration were not supported.

CEOs who hold the dual role of chair of the board have a preference for less risky compensation. Long-term incentive pay is more likely to be lower where

the CEO undertakes both roles (hypothesis 10), than when they do not. Hypothesis 11 proposed that the CEO influences directors appointed subsequent to taking office in remuneration decisions. Contrary to expectations, however, salary levels were likely to be lower when directors were appointed after the CEO, however, support was limited at only the 10 percent level of significance.

As expected, the length of the CEO's tenure (hypothesis 13) was positively associated with total remuneration, in addition to the extent of salary on offer. This result is consistent with prior research by Attaway (2000), McKnight and Tomkins (2004) and Buchholtz, Young and Powell (1998). It offers support for the argument that as the CEO's tenure increases, the executive builds a proven 'track record' (McKnight and Tomkins, 2004), and develops relationships both within and outside the organisation, thus acquiring the respect and confidence of board members. The firm is more likely to reward such expertise to retain it within the organisation.

CEOs who sit on external boards or non-profit organisations are likely to receive lower levels of cash bonus. Again, this contradicts the positive association predicted by hypothesis 14. This could mean that CEOs undertaking roles external to the firm are not meeting performance targets within the organisation, and so do not maximise their cash bonus opportunities.

CEOs who own shares in the firm have a clear preference for incentive-based compensation in comparison to salary. This finding appears to contradict Mehran's (1995) observation that total equity holdings are considered when determining incentive-based compensation. Where CEOs hold increasing levels of shares they are likely to rely less on salary. CEOs of two sample firms receive no salary, but hold higher than average levels of shares. CEOs in these companies are more likely to have greater alignment with owners in their decision-making practices. Contrary to the expected prediction of hypothesis 16, the payment of cash bonuses is lower for firms where the CEO is a founder, or a relative of the founder of the company. The hypothesis is supported in relation to long-term incentive pay, however, indicating CEO founders have a preference for market-based incentives for their own remuneration.

Hypothesis 4b proposes that the provision of incentive remuneration is positively associated with the extent of growth opportunities. Two logistic regression models were developed to assess the determinants of the decision to pay (1) cash bonuses and (2) long term incentive compensation, respectively. In the first model the dependent variable was categorised as '1' for firms that pay a cash bonus to executives and '0' for firms that do not pay a cash bonus. Although the R-squared indicates a significant model (Cox and Snell R-squared = 0.272) firm size is the only positive significant indicator. However, the decision to offer long-term share-based compensation appears to be made on the basis of factors not considered in the study. Logistic

regression models provide no explanatory power (Cox and Snell R-squared is 0.121). Contrary to expectations indicated in hypothesis 4b, growth firms are no more likely to utilise incentive-based compensation as a method of compensation CEOs than non-growth firms.

6.3.2 Determinants of Non-CEO Compensation

The results of hypotheses tests assessing the determinants of non-CEO compensation are presented in Table 6.10. As with the CEO results, all models have good explanatory power. R-squared ranges from a low of 52 percent for the long-term incentives model to 69 percent for salary and 72 percent for the model explaining determinants of total compensation.

All components of non-CEO compensation are found to positively relate to ROA, the accounting measure of firm performance. This support for hypothesis 1 is a stronger result than that indicated by the CEO models. Again, sensitivity testing indicates no relationship between measures of prior year's financial performance and remuneration components of non-CEOs. No remuneration components of non-CEO executives are determined by market-based performance measures.

Table 6.10: OLS Estimate of Determinants of Non-CEO Compensation

Variable	Hyp	Pred. Sign	Salary		Cash Bonus		Long-Term Incentives		Total Compensation	
			Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
<i>Firm Performance</i>										
ROA	1	+	0.124	3.433***	0.468	3.743***	0.414	2.246**	0.196	3.885***
SHAREPERF	1	+	0.001	0.135	-0.027	-1.372	-0.033	-1.276	-0.006	-0.776
<i>Firm Characteristics</i>										
SIZE	2	+	0.216	11.065***	0.581	9.357***	0.794	9.185***	0.368	13.560***
COMPLEX	3	+	0.040	2.326**	0.086	1.646**	-0.065	-0.861	0.054	2.297**
GROWTH	4	+	0.004	0.182	0.031	0.394	0.066	0.625	0.042	1.296
<i>Governance Determinants</i>										
OUTDIR	5	-	0.105	0.504	0.606	0.808	-1.578	-1.530*	-0.300	-1.032
GREYDIRS	6	+	-0.138	-1.213	0.244	0.634	-0.614	-1.109	-0.100	-0.632
BUSYDIRS	7	+	-0.260	-1.799**	0.558	1.246	-1.079	-1.617*	-0.122	-0.605
DIRTEN	8	-	-0.001	-0.279	0.006	0.445	0.017	0.454	-0.003	-0.455
BLCKHLDR	9	-	0.188	2.698***	-0.159	-0.724	0.428	1.347*	0.116	1.204
CEODUAL	10	+	0.066	0.643	-0.247	-0.674	-0.250	-0.446	-0.043	-0.304
POSTCEO	11	+	-0.109	-1.174	-0.035	-0.122	0.495	1.090	0.033	0.255
REMCTEE	12	+	-0.090	-1.627*	-0.045	-0.251	-0.005	-0.021	-0.056	-0.721
CEOTEN	13	+	0.006	0.973	0.015	0.766	-0.006	-0.178	0.008	0.952
EXTERNAL	14	+	-0.002	-0.052	-0.061	-0.422	-0.185	-0.890	-0.087	-1.334
<i>Ownership Determinants</i>										
CEOSHR	15	+	0.008	1.932**	0.014	0.945	0.019	0.894	0.003	0.521
FOUNDER	16	+	-0.163	-1.837**	-0.372	-1.207	0.578	1.277	-0.136	-1.100
Constant		+/-	8.157	21.632	0.137	0.118	-3.327	-1.938	6.106	11.644
R-squared			0.691		0.606		0.522		0.723	
F Statistic			17.764		10.495		7.080		20.771	
Significance			0.000		0.000		0.000		0.000	

*** significant at 1% (one-tailed)

** significant at 5% (one-tailed)

* significant at 10% (one-tailed)

Firm size (hypothesis 2) and complexity (hypothesis 3) are also positively associated with remuneration. Complexity does not relate to the level of long-term incentives, however. Contrary to expectations of hypothesis 4, firms with higher growth opportunities do not pay higher level of remuneration to non-CEO executives. This result differs from the findings of the CEO models.

There is support for the proposition that monitoring and governance factors influence non-CEO executive compensation, although to a lesser extent than for CEOs. The proportion of busy directors on the board (hypothesis 7) is negatively related to the level of both salary and long-term incentive payments. This result indicates that directors who operate on multiple boards are likely to be more vigilant in assessing pay levels of the senior management team, and more likely to bring their experience relating to remuneration practices of other firms with which they are involved, to the remuneration decision. Similarly, support for hypothesis 5, which examined the monitoring role of outside directors, indicates board vigilance in ensuring lower levels of incentive-based pay, although only at the 10 percent level of significance.

There is some evidence that the existence of external blockholders (hypothesis 9) relates to higher levels of non-CEO salary and long-term incentives. This result indicates blockholder preference for using incentive-based pay as a reward mechanism to align managerial interests with those of shareholders.

CEOs who are shareholders were more likely to support higher salary levels for subordinate executives, indicating support for hypothesis 15. Interestingly, however, where CEOs are either a founder or relative of the founder of an organisation, non-CEO executive salary is lower. This appears to provide evidence of the increased power or influence of founders, where they control the salary of lower-level executives.

Hypothesis 4b proposes that the provision of incentive remuneration is positively associated with the extent of growth opportunities. Again, two logistic regression models were developed to assess the determinants of the decision to pay (1) cash bonuses and (2) long term incentive compensation, respectively. In the first model the dependent variable was categorised as '1' for firms that pay a cash bonus to executives and '0' for firms that do not pay a cash bonus. Although the R-squared indicates a significant model (Cox and Snell R-squared = 0.297) firm size is the only positive significant indicator. The decision to offer long-term share-based compensation to non-CEO executives appears to be made on the basis of factors not considered in the study. Logistic regression models provide no explanatory power (Cox and Snell R-squared for the non-CEO model is 0.141). Contrary to expectations indicated in hypothesis 4b, growth firms are no more likely to utilise incentive-based compensation as a method of compensation non-CEO executives than non-growth firms.

6.4 Conclusion

Ryan and Wiggins (2000) found that although the structure of compensation of CEOs aligned with that on non-CEO executives, the determinants of remuneration differed between the levels of executives. The current study indicates that in the Australian context the structure of CEO remuneration differs from that of non-CEO executives. As firms move progressively up the senior executive hierarchy, both short-term bonus and share-based incentives become more important as components of executive compensation than salary. Australian firms are increasingly subjecting executives to meeting performance hurdles prior to being awarded, or being able to exercise long-term incentive components of pay. Whilst firm size and complexity relate to executive remuneration for both CEOs and non-CEO executives, other factors that determine remuneration differ. Monitoring and governance factors, in addition to ownership measures, play a more important role in the determination of CEO compensation than they do non-CEO remuneration.

Results indicate executive remuneration is determined by a range of factors. Firm financial performance is associated with the level of all components of both CEO and non-CEO remuneration to varying degrees. However, with the exception of cash bonuses to CEOs, remuneration is more likely to be related to accounting measures of performance. The association between firm performance and remuneration was stronger than that observed by the majority of prior Australian research.

There is overwhelming support for the prediction that firm size and complexity determines the level of all components of remuneration for both CEOs and non-CEO executives. This result is indicative of larger, more complex firms demanding higher quality labour, and paying increased levels of remuneration as a result. Growth firms are more likely to pay higher levels of cash bonuses and long-term incentives to CEOs.

Monitoring and governance mechanisms have an influence on remuneration components, although to a lesser extent than do firm performance and economic characteristics. Outside directors monitor the level of long-term incentive payments of non-CEO executives. Payments of long-term incentives to non-CEO executives were lower where the CEO also held the position of Chair of the Board. This result indicates a preference for less risky cash incentives, when CEOs are in a position to influence board decision-making. In some cases, findings relating to board monitoring arguments verified the managers' ability to influence remuneration, and weak corporate governance structures. For example, a greater proportion of external directors on the board results in higher rather than lower levels of salary. The longer the CEO has been tenured in the position, the higher the level of salary and total remuneration.

Contrary to expectations, the proportion of shares owned by CEOs, and payment of both salary and total remuneration to CEOs exhibited an inverse

relationship. This result appears to indicate that CEOs owning a higher proportion of shares operate as owners, and are more likely to rely on income from shares than salary.

Finally, consistent with observations by McKnight and Tomkins (1999) and Chalmers, Koh and Stapledon (2006), factors impacting remuneration vary across the different components. While firm size influences the level of all components of remuneration for both CEOs and non-CEO executives, the impact of firm financial performance differs across pay components. The extent of growth opportunities is more likely to influence incentive pay, however, its effect is not limited to long-term incentive compensation.

While the length of CEO tenure relates to the level of salary and total compensation, there is no association with either short-term or long-term incentive-based pay. The founder status of the CEO does not relate to CEO salary, however, does relate to incentive-based compensation. The existence of external blockholders, and busy directors is associated with the level of non-CEO executive salary, however, there is no such relationship with cash bonuses or long-term incentive pay. Similarly, the extent to which the CEO owns shares in the firm, and the founder status of the CEO correlates with non-CEO salary, but no other pay component.

Chapter 7

CONCLUSION

Section 7.1 reiterates the objectives of the study. A summary of the major research findings follows. The implications of the results are presented in Section 7.3, with the penultimate section indicating potential limitations of the work. Opportunities for future research are explored in the final section.

7.1 Objectives of the Study

Corporate governance has increased in prominence and importance in the business arena in recent years. With the collapse of Enron and, in Australia, other high profile companies including HIH, One.Tel and Harris Scarfe, there has been a call for improved corporate governance mechanisms (Kiel and Nicholson, 2003; Lavelle, 2002; Thomas, 2002). Executive pay, in particular, has received increased attention from the media and government.

The objective of the study documented in this thesis is to add to our understanding of both the components and determinants of Australian

remuneration packages for the top management team, which are responsible for the strategic direction of the firm, under an expanded regulatory regime. It does so in four main ways.

Firstly, the study examines the determinants of compensation of the top five senior executives in Australian firms, in addition to the CEO. With the exception of a limited number of US studies, the emphasis of prior research which examines the structure and determinants of compensation has been on CEO pay alone. No Australian research, to date, explores the structure and determinants of remuneration beyond the CEO.

Secondly, the research is carried out in a contemporary setting and timeframe which is subject to expanded disclosure requirements, when compared to prior Australian research. The corporate reporting landscape relating to executive remuneration has experienced substantial change over the last 10 years. With the Australian Government's *CLERP* program, and convergence with international accounting standards, requirements for disclosure and recognition of components of remuneration, and in particular, share-based payments have expanded considerably. With the requirement to disclose the proportion of executive compensation linked to performance hurdles, the ability of shareholders to indicate their views on remuneration by way of a non-binding vote on the remuneration report and the requirement to expense share-based payments that form part of remuneration, we now expect to find changes in the structure of remuneration. The link between

measures of firm performance and executive remuneration is also expected to be strengthened.

As a result of amendments to the regulatory regime governing remuneration disclosures, factors found in prior literature to relate to the level and components of executive pay could have changed. In addition, a number of factors found to relate to the level of CEO compensation in overseas research have not, to date, been examined in Australian research. Some of these were not previously able to be measured in the Australian context due to unavailability of data. The current study examines an expanded range of factors documented in overseas research as likely to relate to remuneration, some of which have not been previously examined in Australian work.

Finally, the study reconciles the perspectives provided by both agency and managerial power theories in terms of how they present similar and differing propositions regarding determinants of executive remuneration. Empirical investigation within Australia and internationally has, to date, engaged agency theory as the predominant perspective in the development of testable hypotheses. Recently, the theory of managerial power, which emerges from the sociology and political science literatures, has been proposed as a theory which can assist in more fully considering behavioural aspects of managerial actions, in order to present a more comprehensive model of the determinants of executive remuneration.

7.2 Major Findings

Since prior Australian research was conducted, the structure of CEO compensation has changed to include a greater reliance on incentive pay components. Now, only 39 percent of CEO remuneration is attributed to base salary, with 52 percent consisting of performance-based remuneration. A greater proportion of Australian firms are now utilising incentive pay than was previously observed, with 87 percent of Australian CEOs and 84 percent of non-CEO executives receiving long-term incentive payments. The awarding of long-term incentives is subject to meeting performance hurdles in approximately 66 percent of these firms, with this proportion rising to 70 percent in manufacturing and industrial companies.

The current study indicates that in the Australian context the structure of CEO remuneration differs from that of non-CEO executives. As managers move progressively up the senior executive hierarchy, both short-term bonuses and share-based incentive pay become more important as components of executive compensation. Accordingly, salary decreases as a proportion of total pay.

Firm financial performance relates to the level of all components of remuneration to varying degrees. Hypothesis 1 was supported, where accounting performance was positively related to CEO salary and total compensation and to all components of non-CEO executives' remuneration. Cash bonus was found to positively relate to market performance, however,

long-term incentive pay was not. The relation between firm financial performance and executive remuneration, as expected, was stronger than that identified by prior Australian research. This lends support to the argument that current disclosure regulation is serving to enhance the pay-performance link in Australian firms.

Associations between firm size (hypothesis 2) and complexity (hypothesis 3) and compensation were observed for both CEO and non-CEO executives. A strong, positive, relationship between the size of the firm and remuneration was found for all pay components and levels of executive. Cash bonuses are more likely to be attributed to the complexity of the organisation's operations than other components of remuneration, for both CEOs and other executives in the senior team. Hypothesis 4 was supported in that growth firms are more likely to pay higher levels of incentive pay and total compensation to CEOs than non-growth firms.

Executive remuneration is also found to relate to the strength of various monitoring and governance mechanisms, although to a greater extent for CEOs than other senior executives. While hypothesis 5 predicted a negative relationship between the proportion of outside directors on the board and remuneration, a positive association was observed between external directors on the board and CEO salary and, to a lesser extent, cash bonuses. This result indicates that where governance mechanisms are weak, external directors are influenced by the CEO rather than operating independently.

The proportion of grey directors negatively relates to the level of cash bonus paid to CEOs. Consistent with the expectations of hypothesis 7, the CEO is able to influence the board where there are busy directors. This influence manifests in higher salary and total remuneration levels. The length of directors' tenure (hypothesis 8) and the CEO's representation on the remuneration committee (hypothesis 12) were not found to relate to any component of CEO remuneration. While the existence of blockholders (hypothesis 9) received no support in relation to CEO pay, there was some evidence that external blockholders have a preference for using incentive-based pay as a reward mechanism for non-CEO executives.

CEOs, who also hold the dual role of Chair of the Board, have a preference for less risky compensation. Long-term incentive pay is more likely to be lower where the CEO undertakes both roles (hypothesis 10), than when they do not. Hypothesis 11 proposed that the CEO influences directors appointed subsequent to when the CEO takes office, in remuneration decisions. Contrary to expectations, however, salary levels were likely to be lower when directors were appointed after the CEO.

As expected, the length of the CEO's tenure (hypothesis 13) was positively associated with total remuneration, in addition to the extent of salary on offer. The result provides support for the argument that as the CEO's expertise

increases, the firm is more likely to reward that expertise in order to retain it within the organisation.

CEOs who sit on external boards or non-profit organisations are likely to receive lower levels of cash bonus. This contradicts the positive association predicted by hypothesis 14, and could mean that CEOs undertaking roles external to the firm are not meeting performance targets within the organisation, and so do not maximise their cash bonus opportunities.

CEOs who own shares in the firm have a clear preference for incentive-based compensation in comparison to salary. However, where the CEO is a significant shareholder, subordinate salary is likely to be higher. Contrary to the expected prediction of hypothesis 16, the payment of cash bonuses to CEOs, and salary to other senior executives, is lower for firms where the CEO is a founder of the company. The hypothesis is supported in relation to long-term incentive pay, however, indicating CEO founders have a preference for market-based incentives for their own remuneration.

In summary, the expectation that remuneration is now more strongly tied to firm performance is supported. The size and complexity of the firm are also considered in determining the level of various components of both CEO and non-CEO executive compensation. Managers are able to influence the remuneration-setting process where governance structures are weak, or where they have greater influence. This is particularly evident, for example,

where the CEO is the founder, or holds a greater proportion of shares, when they have been incumbent in their position for an extended length of time, or where outside directors have multiple board commitments.

Consistent with Ryan and Wiggins' (2000) US observations, in some cases factors relating to CEO compensation differ from those associated with compensation of lower-level executives. Monitoring and governance mechanisms play a lesser role than firm performance and economic characteristics in determining non-CEO remuneration.

7.3 Implications of the Results

The study documented in the current thesis provides a good understanding of the various components of contemporary managerial pay contracts in Australia, and how the mix of executive pay components has changed in the last five years. The results are generalisable to other publicly listed firms in Australia and are relevant to other jurisdictions, such as the UK, where similar pay components are utilised in remunerating top managers. Results relating to the use of options and other share-based payments are also relevant to other jurisdictions such as the US and the UK, following the move towards requiring firms to expense share-based payments internationally as a result of convergence. Consistent with observations in the Australian environment over the period of the current study, overseas firms are also likely to be reconsidering their relative use of stock options and performance

rights. We would expect that in the US there will be reduced reliance on stock options in the coming years, due to the fact they are now required to be expensed over the vesting period.

Findings indicate that board monitoring mechanisms are more likely to be beneficial in determining CEO compensation than that of non-CEO executives. This suggests that internal governance processes are likely to play a significant role in monitoring lower-level executives. However, internal monitoring by the CEO does not fully replace the need for incentive alignment, suggesting that incentive mechanisms and monitoring are both important components of effective corporate governance.

Results offer support for both agency and managerial power theories. Agency proposals that executive remuneration aligns with firm performance are supported. The firm's demand for quality labour to successfully manage larger, more complex firms, results in greater levels of remuneration. Results also indicate that managers exert power or influence over the compensation-setting process when they have longer tenure (resulting in higher salary for CEOs), are founders of the firm, and own greater levels of shares (resulting in higher cash bonuses for all executives).

The results have implications for Australian standard setters in their assessment of the success of increased regulation of remuneration practices and disclosure. Results offer support for the regulatory amendments, as they

indicate a stronger association between firm performance and remuneration than previously observed in Australian research, indicating a greater alignment between managers' and owners' incentives. However, the lack of an association between market measures of firm performance and incentive pay components is surprising, particularly given the increased extent to which long-term incentive pay is now linked to performance hurdles. This may suggest that performance hurdles based on market performance measures are not having their desired effect of aligning the interests of managers with shareholders.

Recently, hedging has been raised as a significant concern by investors and investor interest groups (Buffini, 2006b). Executives have been criticised for hedging unvested options, which effectively mitigates any risk attached to incentive-based pay components and undermines claims that equity incentives align the interests of managers and shareholders (Buffini, 2006b; West and Andrusiak, 2006). The ASX Corporate Governance Council has recently changed their best practice guidelines to request companies to disclose secret option hedging by executives (West and Andrusiak, 2006). However, Eric Mayne, the Chairman of the ASX Corporate Governance Council and ASX head of market supervision, said recently that any further action on the issue would require changes to corporations' legislation (West and Andrusiak, 2006, p.19). Results of the current study, where no association between market measures of performance and long-term incentive compensation was observed, will also lend support to the argument

that executive pay and firm performance are still not adequately aligned, potentially because of executive's reducing their exposure to risk by hedging.

Governance mechanisms such as the non-binding vote by shareholders, and the disclosure of performance hurdles appear to have had an effect on the structure of executive compensation. Reliance on incentive-based pay has increased, although the use of options as a pay method appears to be declining in favour of performance rights. Research by Meulbroek (2001) and Matolcsy and Wright (2006c) provide support for limiting the use of performance hurdles, and limiting the link between executive pay and firm performance in some circumstances. This is particularly relevant in industries where too much risk is borne by undiversified managers, who value incentive-based components of compensation at significantly lower levels than do firms. In such industries the use of cash-based incentives may be more appropriate.

Results provide overwhelming support for the proposal that firm size and complexity are significant issues to be considered in designing executive remuneration contracts. These results are relevant to boards of Australian public companies in their assessment of appropriate mechanisms upon which to assess managerial performance, and attract high quality executives. Boards also gain an understanding of the success of the various governance mechanisms examined, in aligning managerial interests with those of owners in order to maximise firm value. Boards need to be aware that where

governance mechanisms are weak, outside directors are more likely to be influenced by the CEO. Busy directors result in weaker monitoring, which is likely to manifest itself in higher salary and total pay levels.

7.4 *Limitations of the Study*

The agency theory and managerial power arguments presented in the thesis hold under the Anglo-US model of corporate governance. However, results cannot necessarily be translated to European and Asian models of governance where different power differentials may exist.

Taking a cross-sectional approach limits the analysis of trends and the prospect that there is a one-off approach to remuneration (although nothing atypical is expected of 2005). Future research should take a longitudinal approach to examine the determinants of pay. A longitudinal study will also be able to assess determinants of the variability of executive pay components, rather than just focussing on levels.

The relatively lower explanatory power of the model examining determinants of long-term incentive pay indicates there may be other plausible explanations that would provide a more meaningful understanding of incentive pay practices. Alternatively, the measures of firm performance may not have fully captured the performance measures upon which incentive compensation is based.

7.5 *Future Research*

Future research could address the limitations identified. Examining the impact of differential power models that exist in European and Asian jurisdictions on executive pay practices would provide a richer understanding of the impact of power on executive pay.

An examination of company reports indicates long-term incentive pay is determined by a range of performance measures, many of which are not related to financial performance, but to other indicators of managerial performance. Future research could develop a model to more fully understand long-term incentive payments by examining a greater range of performance measures, beyond the financial performance metrics utilised in the current and prior work.

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Appendix 1

CORRELATION MATRIX: INDEPENDENT VARIABLES

Appendix 1

CORRELATION MATRIX: INDEPENDENT VARIABLES

Pearson Correlation
Significance (2-tailed)

	ROA	SHARE PERF	GROWTH	OUTDIR	GREY DIRS	BUSY DIRS	DIRTEN	BLCKHLDR	CEODUAL	POSTCEO
ROA										
SHAREPERF	.504 .000	1								
GROWTH	.339 .000	-.382 .000	1							
OUTDIR	-.043 .557	.167 .022	-.122 .096	1						
GREYDIRS	-.152 .039	.027 .716	-.090 .223	-.051 .492	1					
BUSYDIRS	-.007 .919	.137 .061	-.090 .221	.113 .124	-.080 .276	1				
DIRTEN	.054 .471	.111 .134	-.149 .045	.094 .205	.037 .624	.010 .888	1			
BLCKSUM	.000 1.00	.004 .953	-.078 .288	.001 .994	-.115 .117	-.029 .696	-.092 .216	1		
CEODUAL	.044 .546	-.096 .189	.017 .813	-.275 .000	.053 .471	-.127 .082	.059 .430	-.053 .473	1	
POSTCEO	.074 .316	-.043 .561	.074 .319	-.333 .000	-.053 .474	-.190 .010	-.074 .322	.172 .019	.142 .055	1

Appendix 1 continued

Pearson Correlation
Significance (2-tailed)

	REMCTEE	CEO SHARE	FOUNDER	SIZE	COMPLEX	CEOTEN	EXTERNAL
ROA	.048 .516	.078 .296	.127 .083	.156 .032	.063 .390	.171 .022	.031 .673
SHAREPERF	-.021 .772	-.026 .725	-.056 .449	.532 .000	.277 .000	-.099 .906	-.048 .517
GROWTH	-.101 .170	.071 .340	.113 .123	-.416 .000	-.192 .009	-.046 .545	.038 .608
OUTDIR	-.167 .022	-.409 .000	-.301 .000	.409 .000	.198 .006	-.327 .000	.076 .301
GREYDIRS	.029 .692	.148 .046	.123 .095	-.173 .018	-.160 .029	.038 .617	-.114 .123
BUSYDIRS	-.133 .068	-.053 .480	-.050 .501	.224 .002	.057 .436	-.111 .139	.150 .039
DIRTEN	.135 .067	.007 .927	-.015 .837	.123 .098	.103 .167	.092 .223	.066 .372
BLCKHLDR	.122 .095	-.127 .087	-.041 .574	-.189 .010	-.020 .790	-.007 .926	-.065 .3740
CEODUAL	.242 .001	.357 .000	.254 .000	-.182 .013	-.099 .175	.425 .000	.084 .250
POSTCEO	.190 .010	.221 .003	.294 .000	-.210 .004	-.114 .124	.599 .000	-.020 .784

Appendix 1 continued

Pearson Correlation
Significance (2-tailed)

	REMCTEE	CEO SHARE	FOUNDER	SIZE	COMPLEX	CEOTEN	EXTERNAL
REMCTEE	1						
CEOSHARE	.237 .001	1					
FOUNDER	.210 .004	.474 .000	1				
SIZE	-.177 .015	-.229 .002	-.248 .001	1			
COMPLEX	-.057 .434	-.018 .805	-.043 .560	.452 .000	1		
CEOTEN	.287 .000	.409 .000	.457 .000	-.176 .018	-.118 .115	1	
EXTERNAL	.067 .363	-.019 .895	-.129 .080	.097 .184	.076 .299	-.061 .415	1